MATERNAL AND NEONATAL HEALTH (MNH) PROGRAM

GLOBAL CLOSE-OUT REPORT

1998–2004

Submitted to:
United States Agency for International Development (USAID)
Under Cooperative Agreement #HRN-A-00-98-00043-00

Submitted by:
JHPIEGO in collaboration with
The Centre for Development and Population Activities (CEDPA)
Johns Hopkins University Center for Communication Programs (JHU/CCP) and
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ABBREVIATIONS

ANC	Antenatal Care
BCI	Behavior Change Interventions
BPP	Birth Preparedness Package
BP/CR	Birth Preparedness/Complication Readiness
CDC	Centers for Disease Control and Prevention
CDS	Centres pour le Développement de la Santé
CEDPA	Centre for Development and Population Activities
CoGes	Community Health Management Committees
COOPI	Italian Cooperation
CSS	Clinical Skills Standardization
CTS	Clinical Training Skills
DFID	The Department For International Development, UK
DHMT	District Health Management Team
DSF	Division of Family and Reproductive Health
ECSAOG	East Central and Southern Africa Association of Obstetrics and Gynecology
EM	Enrolled Midwifery
EMNC	Essential Maternal and Neonatal Care
EmOC	Emergency Obstetric Care
EOC	Essential Obstetric Care
FCHV	Female Community Health Volunteer
FCI	Family Care International
FHA	Family Health and AIDS Program
FIGO	International Federation of Gynecology and Obstetrics
FLASOG	Latin American Federation of Societies of Obstetricians and Gynecologists
FP/RH	Family Planning/Reproductive Health
GNC	General Nursing Council
HHF	Haitian Health Foundation
HWD	Health Workforce Development
IBI	Indonesian Midwifery Association
ICM	International Confederation of Midwives
IHS	Institute for Health Sciences
IMPAC	Integrated Management of Pregnancy and Childbirth
IPT	Intermittent Preventive Treatment
JHU/CCP	Johns Hopkins University/Center for Communication Programs
KZH	Koshi Zonal Hospital
MAC	Malaria Action Coalition
MCHW	Maternal and Child Health Worker
MCPC	*Managing Complications in Pregnancy and Childbirth* manual
MIPESA	Malaria in Pregnancy/East and Southern Africa Coalition
MNH	Maternal and Neonatal Health
MOH	Ministry of Health
MSH	Management Sciences for Health
NGO	Nongovernmental Organization
NFHP	Nepal Family Health Program
NHTC	National Health Training Center

NSMP	Nepal Safer Motherhood Project
PAHO	Pan-American Health Organization
PATH	Program for Appropriate Technology in Health
PHBC	Patan Hospital Birthing Center
PMTCT	Prevention of Mother-to-Child Transmission
PNPs	Policies, Norms, and Protocols
POGI	Indonesia OB/GYN Society
PPH	Postpartum Hemorrhage
PQI	Performance and Quality Improvement
PROSIN	Provedo de Salud Integral
QIRI	Quality Improvement and Recognition Initiative
RAOPAG	West African Network against Malaria during Pregnancy
RBM	Roll Back Malaria Initiative
RCHS	Reproductive and Child Health Section—Tanzania MOH
RCQHC	Regional Centre for Quality of Health Care
REDSO/ESA	Regional Economic Development Support Office/East and Southern Africa
RM	Registered Midwifery
RPM	Rational Pharmaceutical Management
SAFE	Safety, Acceptability, Feasibility, and Effectiveness
SARS	Severe Acute Respiratory Syndrome
SMN	Safe Motherhood Network
SONU	Soins Obstetricaux et Neonatales d'Urgences
SP	Sulfadoxine-Pyrimethamine
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WAHO	West Africa Health Organization
WCA	West and Central Africa
WHO	World Health Organization
WRA	White Ribbon Alliance
ZIHP	Zambia Integrated Health Program
ZWRASM	Zambia White Ribbon Alliance for Safe Motherhood

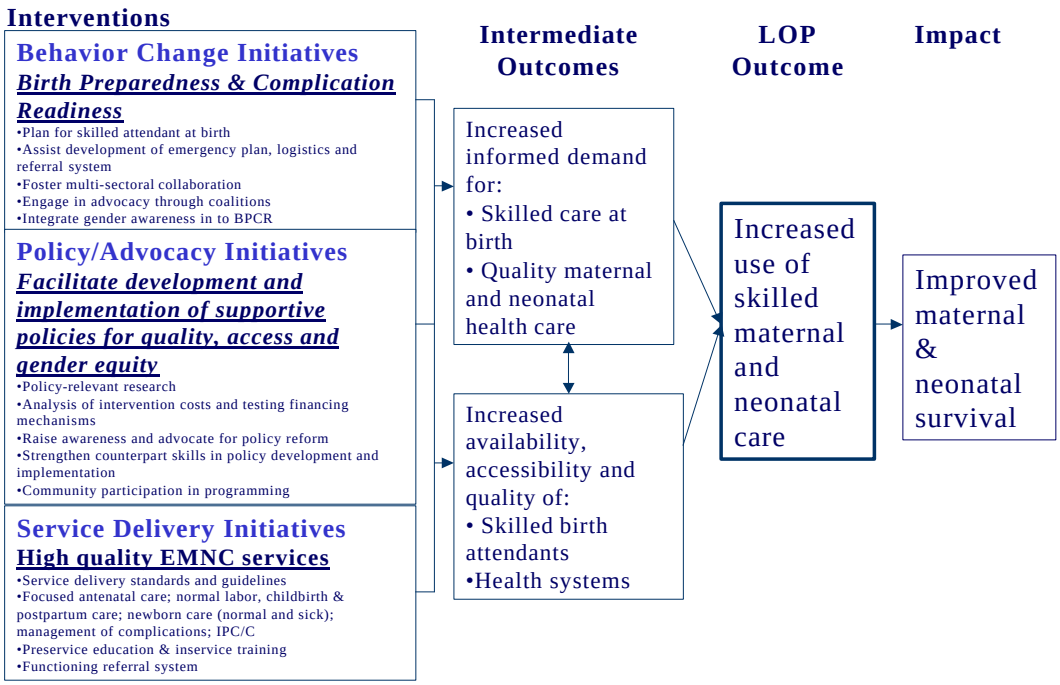
EXECUTIVE SUMMARY

For 16 years USAID has supported the growth and expansion of the global safe motherhood initiative. As a lead donor, USAID has committed significant resources to this important field through two flagship programs: the MotherCare Project and, more recently, the Maternal and Neonatal Health Program. For the last 6 years, the Maternal and Neonatal Health (MNH) Program—a partnership among JHPIEGO, the Johns Hopkins University Center for Communication Programs (JHU/CCP), the Centre for Development and Population Activities (CEDPA), and the Program for Appropriate Technology in Health (PATH)—has been working to build a legacy of change in programming for safe motherhood.

Building on USAID's investment through MotherCare, the MNH Program has promoted an integrated strategy that focuses on interventions known to have the greatest impact in reducing maternal and newborn mortality—including the provision of skilled care. Although many factors contribute to skilled care, the single most critical intervention in saving the lives of women and newborns is the presence of a skilled provider during childbirth and the immediate postpartum/newborn period.

Promoting the concept of collective action for birth preparedness/complication readiness, the Program has worked across a range of players—policymakers, providers, communities, families, and women themselves—to ensure that the necessary elements are in place to increase the use of skilled providers at birth. Central to the MNH Program strategy is a broad package of essential maternal and newborn care (EMNC) interventions that are evidence-based and build on global lessons learned about what works to save the lives of mothers and newborns. Program interventions supported the development of skilled providers and helped to create an enabling environment within the healthcare system while at the same time mobilizing stakeholders and linking informed communities to safe motherhood services.

Figure 1. MNH Program Conceptual Framework



Marked change is evident through USAID's investment, the combined effort of a number of other key donors, and growing engagement and commitment from governments worldwide. In Indonesia, the 2003 Indonesian Demographic and Health Survey (IDHS) indicated an increase in the percentage of births attended by skilled providers from 43percent in 1997 to 66 percent in 2003. The IDHS also reported a decrease in the maternal mortality ratio (MMR) from 373/100,000 live births in 1997 to 307/100,000 live births in 2003. Guatemala shows similar improvements. The maternal mortality study commissioned in 1989 indicated an MMR of 219 maternal deaths per 100,000 live births.[1] The National Maternal-Child Survey (Encuesta Nacional de Salud Materno Infantil), conducted in 1995, documented a rate of 190 maternal deaths per 100,000 live births, and the Reproductive Age Mortality Study (RAMOS) cites a drop to 153 maternal deaths per 100,000 in 2000.

USAID has contributed significantly to the mobilization of resources and technical support in both Indonesia and Guatemala. USAID-sponsored programs such as MotherCare and the MNH Program have been active players in those countries for a number of years and have made significant contributions to their national safe motherhood programs. In Indonesia, for example, USAID's investment through the MNH Program focused on contributing to the Ministry of Health's efforts to increase skilled attendance at birth. By linking policy dialogue and the establishment of national standards for EMNC to enhancing provider skills through inservice and preservice training and building informed and active communities, USAID's investment has contributed to broad public health impact. In MNH Program-targeted areas in West Java, births attended by a skilled provider rose from 43.2 percent in 1997 to 66.2 percent in 2003. In the same time period, the district health data shows a decrease in the maternal mortality ratio from 452/100,000 live births in 1999 to 358/100,000 live births in 2002.

[1] Informe Final: Linea Basal de Mortalidad Materna para el Año 2000, Ministerio de Salud Publica y Asistencia Social, Guatemala City, Guatemala. March 2003.

In Burkina Faso, USAID has supported the growing national-level commitment to safe motherhood through the MNH Program. Targeting the Koupéla district, the MNH Program has been able to demonstrate the powerful synergies of policy, service delivery, and behavior change and their collective influence on knowledge and use of EMNC services. In the Koupéla district in Burkina Faso, births with a skilled provider increased from 39 percent in 2001 to 58 percent in 2004. Access to emergency obstetric care also increased in the Koupéla district hospital with MNH Program-supported training and facility strengthening. In March 2001, the Program initiated treatment of obstetric complications at the hospital and the rate of cesarean sections rose from 1 percent in 2001 to 6 percent in 2003 and to 11 percent in the first quarter of 2004.

In 6 years much has been learned that can be used to inform future programming in maternal and newborn health. First and foremost, **partnerships are critical to success**. No one program or organization can tackle the challenges and needs inherent in safe motherhood programming. The MNH Program has worked with more than 50 partners both globally and at the country level to implement a range of activities. At both the global and the country level, partnerships have facilitated expanded programming, sharing of lessons learned and new thinking, the institutionalization of successful tools and approaches, achievement of results, and long-term impact. A variety of MNH Program tools and approaches are used and promoted by Program partners such as UNICEF, UNFPA, and Columbia University's Averting Maternal Death and Disability program, which further expands USAID's investment in safe motherhood.

Secondly, **innovation is central to effective programming**. Building on the lessons learned from MotherCare and the experiences of the MNH Program partners, the Program was well positioned to pursue new approaches and to promote the evidence for what works to save lives through new programming. Over the life of project, the Program has contributed to:

- Moving away from a risk-based approach in antenatal care (ANC) to promote *focused* antenatal care;
- The design and implementation of a performance and quality improvement (PQI) approach for essential maternal and newborn care—drawing on evidence-based standards of care;
- Expanding the concept of birth preparedness to include complication readiness and linking this to behavior change and community and social mobilization approaches;
- Operationalizing the prevention and management of malaria during pregnancy using intermittent preventive treatment (IPT) during antenatal care; and,
- Identifying new approaches for prevention of postpartum hemorrhage (PPH) in low-resource settings and home-based care.

Third, **flexibility and responsiveness are essential ingredients in any program effort**. The MNH Program has worked in a variety of settings and has responded as environments and situations have changed—from conflict, to government turn over, to changing stakeholder priorities. The Program has expanded and contracted, shifted geographic focus, taken on new elements, added new partners, and so on to meet identified needs and to successfully respond to stakeholder input and requirements.

Fourth, **dynamic and engaged leaders are necessary to ignite change and to build sustainable capacity** across policy, service delivery, and behavior change.

And finally, **communities want change**. They want to end the needless deaths of their mothers and newborns. With information and support, they are convinced that women's lives are worth

saving and are empowered to act. People, even those in some of the most resource-limited environments, are committing to change and are mobilizing for action.

In 6 years, the MNH Program has left a legacy indicative of USAID's commitment to and investment in safe motherhood. Through dynamic programming, broad partnerships, a commitment to technical excellence, and new learning, the Program has:

- Established and promoted international evidence-based standards for essential maternal and newborn care through global partnerships;
- Improved the quality of skilled attendance by implementing international evidence-based standards and guidelines in national policy, curricula, and competency-based training;
- Generated shared responsibility and coordinated action among policymakers, health facilities, providers, communities, families, and women through birth preparedness and complication readiness;
- Scaled up evidence-based practices, tools, and approaches through the adoption and adaptation of these practices by key organizations working in safe motherhood; and
- Contributed to the evidence base for social and behavior change interventions that generate informed demand and collective action for safe motherhood.

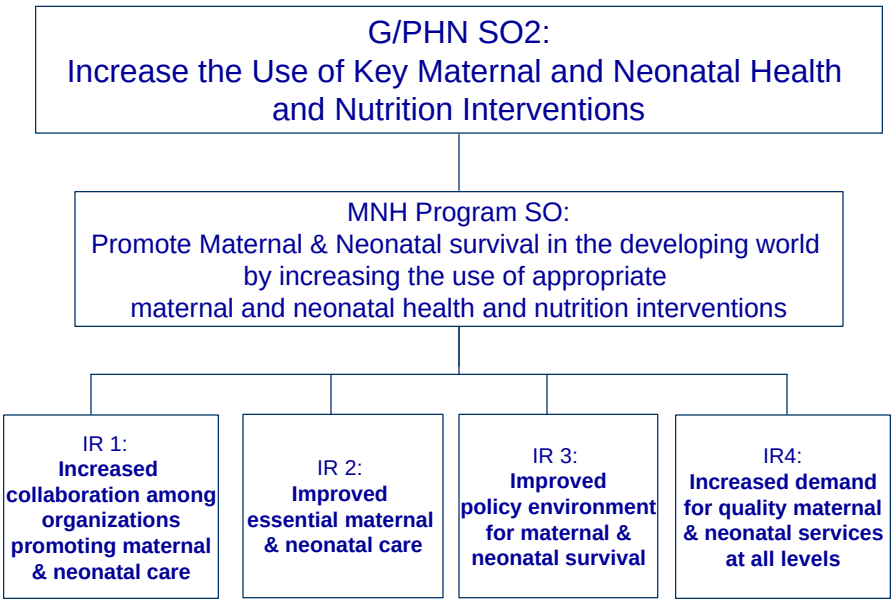
There is, however, more to do. The World Bank *World Development Report 2004: Making Services Work for the Poor* suggests that achievement of the Millennium Development Goals is threatened by extreme inequities in access, quantities, and quality of health services, and constrained resources to address them. Yet the United Nations members have renewed their commitment to the goals, and in August 2003 Secretary-General Kofi Annan stated that they can still be reached by the 2015 deadline if during the remaining 12 years "we maintain and increase the momentum that has been generated" since 2000.

USAID has laid out a new strategy and vision for the period 2004–2009 centered on access to clinical and community maternal, neonatal, and women's health services. The new global award—ACCESS—represents a new phase in programming for maternal and neonatal health. The thrust—to bring essential maternal and newborn health services and interventions as close to the family as possible to achieve large-scale impact—will require (1) improving the implementation of interventions that are currently being carried out at scale, but are implemented poorly, lack attention to maternal and newborn health, or fail to reach poor and marginalized populations; (2) replicating community- and facility-based interventions or approaches that have proven successful on a small scale, but have yet to be adopted by other programs or partners; and (3) bringing new constituents, partners, and champions from among policymakers, private-sector entities, civil society organizations, and community leaders to create a social movement to improve maternal and newborn health outcomes.

MotherCare and the MNH Program have laid a solid foundation on which to build. Future endeavors need to learn from these programs and continue to advance and expand programming for improved maternal and newborn care.

PROGRAM OVERVIEW

Figure 2. MNH Program Strategic Framework



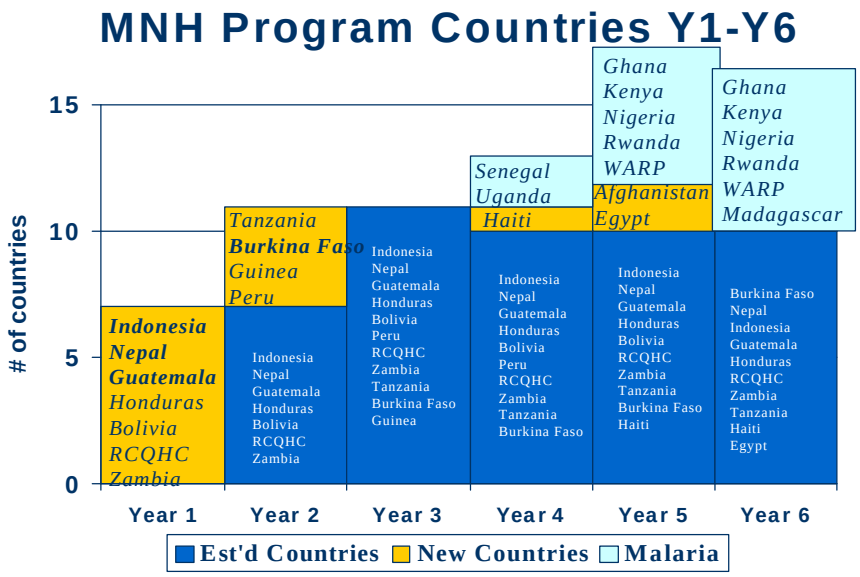
For 6 years, the Maternal and Neonatal Health (MNH) Program has been dedicated to ensuring that women and newborns survive pregnancy, childbirth, and the postpartum period. Through USAID funding, the Program has worked with more than 50 partners and in more than 20 countries to expand the safe motherhood movement. From the articulation of international evidence-based standards of care—in partnership with the World Health Organization (WHO) and other lead donors—to innovative programming in Africa, Asia, and Latin America, the MNH Program has continued to advance safe motherhood programming and has positioned USAID to continue to expand this important agenda well beyond the life of this project.

Recognizing that while birth is a private event, it is also a public responsibility, the MNH Program has emphasized collective action and shared responsibility for birth preparedness and complication readiness and has worked across a range of players—policymakers, providers, communities, facilities, families, and women themselves—to ensure that the necessary ingredients are in place to increase the use of skilled providers at birth and ensure successful outcomes for women and their newborns.

In Latin America, Asia, and Africa, the Program—in partnership with governments, global donors, and a range of international and local NGOs—has responded to the challenges inherent in safe motherhood programming with innovation and a commitment to success. Increasingly, we are seeing host country governments and USAID missions investing in safe motherhood and its various components. USAID missions are recognizing the importance of broadening investments beyond ANC—for example, to a more integrated and holistic approach for improved maternal and child health.

In 1998, the Program was working in seven countries. By 2002/2003, the Program's portfolio had more than doubled and included 16 countries. As a result of increased demand from USAID missions for support and programming, the Program grew from a 5-year $60 million project to a 6-year $80 million project.

Figure 3. MNH Program Countries 1998–2004



Across countries and in its global activities, the Program:

- valued and promoted the mother/child dyad through integrated essential maternal and newborn care;
- articulated and used international standards and guidelines to inform policy, service delivery, and behavior change interventions;
- worked within country and community contexts to ensure that interventions responded to identified needs;
- engaged government (national, regional, and local) counterparts, local NGOs, donors, communities, and other stakeholder—including the faith-based community—to build successful programs by promoting shared responsibility and collective action; and
- promoted integrated programming to include policy, service delivery, and behavior change interventions.

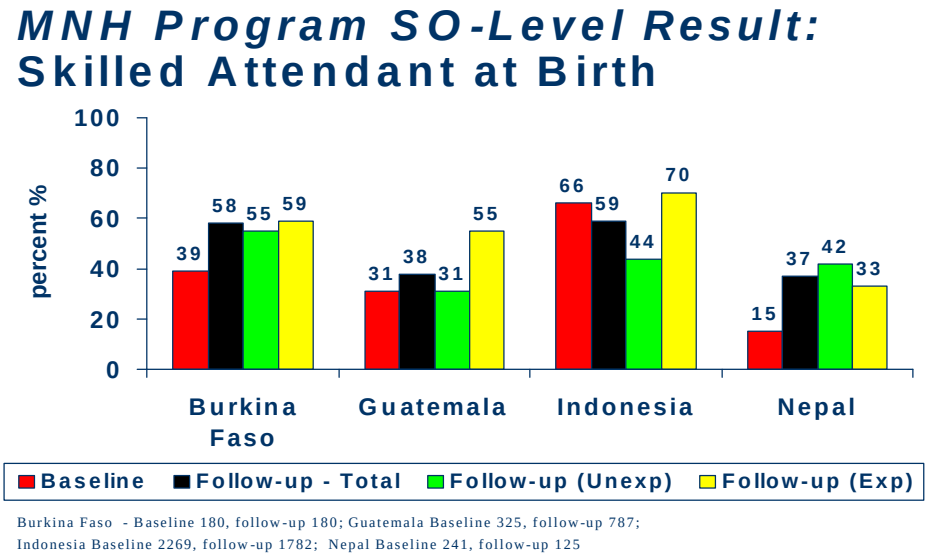
The results of this work are evident in improved quality of services, increased political support for safe motherhood, empowered and informed communities, and increased use of a range of essential maternal and newborn care services, including skilled care at birth. In summary,

- In all countries, the MNH Program worked at the national level with ministries of health, other government counterparts and institutions, as well as donor and NGO partners to set the stage for improved care through the revision of national policies, norms, and protocols (PNPs) for reproductive health, including safe motherhood, using international evidence-based standards and guidelines. In Indonesia, for example, the MNH Program provided

technical assistance to the Ministry of Health (MOH) and the national obstetrics and midwifery associations to adapt the WHO IMPAC manual, *Managing Complications in Pregnancy and Childbirth*. In 2003, the MOH decreed that the adaptation, the *Practical Guidelines for Maternal and Neonatal Health*, would serve as the standard operating procedure manual for maternal and neonatal healthcare nationally.

- The Program's investment in enhancing provider competence and site strengthening has resulted in the increased use of evidence-based practices such as monitoring labor with the WHO-modified partograph, limiting the routine use of episiotomy, establishing skin-to-skin contact between mothers and their newborns, and immediate breastfeeding. In Honduras, after MNH Program training and technical support in essential maternal and newborn care, the episiotomy rates in primaparas is 47 percent compared to 69–92 percent in LAC hospitals generally; active management is carried out in 93 percent of vaginal births, and 83 percent of newborns are placed in immediate skin-to-skin contact with their mothers.
- Where measured through population-based surveys, the Program has also seen an increase in the use of skilled providers at birth (**Figure 4**). Statistically significant increases are evident in Burkina Faso, Guatemala, and Nepal. Although the Program's impact study in Indonesia did not find a statistically significant increase in the use of skilled providers during the period 2001 to 2003, DHS results from 1997 (just prior to MNH Program start up) to 2002/3 show that births with a health professional increased in West Java (the Program's focus area) from 30.5 percent to 48.6 percent. Births at a health facility also increased in West Java—from10.2 percent to 28.6 percent.

Figure 4. Skilled Attendance at Birth in Four Countries (Baseline and Followup)

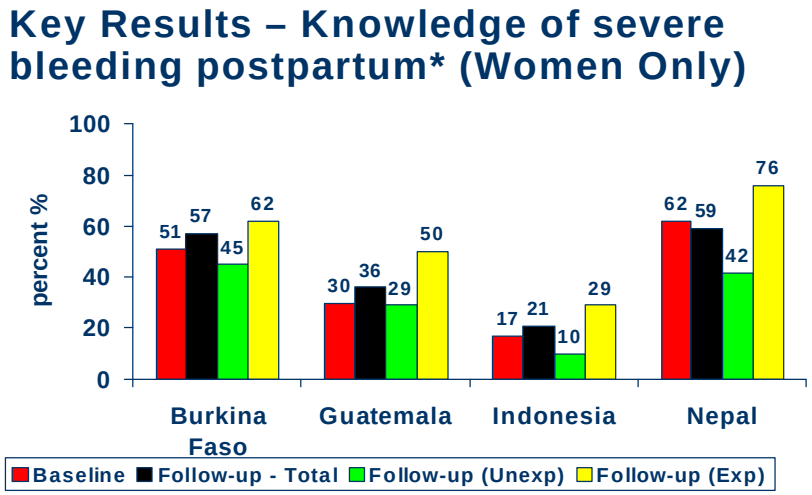


Burkina Faso - Baseline 180, follow-up 180; Guatemala Baseline 325, follow-up 787; Indonesia Baseline 2269, follow-up 1782; Nepal Baseline 241, follow-up 125

- The Program developed and successfully implemented a variety of dynamic behavior change interventions using mass media and social mobilization, including community engagement. The White Ribbon Alliance is active in 24 countries and in 2003–2004 the MNH Program supported the start-up of new alliances in China, Nigeria, and Tanzania. In Nepal, 76 percent of pregnant women exposed to the Program's SUMATA (Care, Share, Prepare) mass media campaign took appropriate action, including seeking antenatal care, saving money,

identifying transportation, and eating nutritious foods. Knowledge of severe bleeding in the postpartum period increased in the Program's four survey countries—Burkina Faso, Guatemala, Indonesia, and Nepal—among respondents who were exposed to the Program's behavior change interventions (**Figure 5**).

Figure 5. Knowledge of Postpartum Bleeding in Four Countries (Baseline and Followup)



*Postpartum defined as the period immediately after childbirth

Throughout programming, the MNH Program dealt with a variety of challenges and issues, working in environments where there was constant civil strife (such as Afghanistan, Indonesia, and Nepal), government changeover, and shifting stakeholder priorities. The Program responded to these situations with creativity and flexibility in an effort to fulfill the outlined scope of work and deliverables. At the same time, there were program shortcomings, and these areas deserve greater attention in future programming. Future needs include:

- Greater attention to the role of nutrition and building linkages to national and local maternal and child nutrition programs;
- The critical role of health commodities/drugs logistics and working with national leaders and in decentralized systems to ensure that the supplies and drugs required for the full range of maternal and newborn healthcare services are available;
- Integrating monitoring and evaluation (M&E) strategies and plans with program implementation strategies and planning to create more opportunities for data-based learning and ongoing programmatic decision-making;
- Ensuring that there is adequate time to implement interventions so that their full effects can be measured;
- Building capacity with ministries of health in decentralized systems for local supervision of health services and delivery systems, including community- and home-based care; and

- Understanding the human resources issues that negatively impact the well-being of the health sector, such as provider deployment and retention, and working with governments to influence change.

MNH PROGRAM ACCOMPLISHMENTS AND RESULTS: 1998–2004

In this following section, MNH Program results are more fully discussed and impact data, where available, are presented. This discussion is framed around the Program's legacy statements:

Establish and promote international evidence-based standards for essential maternal and newborn care through global partnerships

Improve the quality of skilled attendance by implementing international evidence-based standards and guidelines in national policy, curricula, and competency-based training

Generate shared responsibility and coordinated action among policymakers, health facilities, providers, communities, families, and women through birth preparedness and complication readiness

Scale up evidence-based practices, tools, and approaches through the adoption and adaptation of these practices by key organizations working in safe motherhood

Build the evidence base for social and behavior change interventions that generate informed demand and collective action for safe motherhood

We have also included a special section on the Postpartum Hemorrhage Initiative and on the MNH Program's activities related to malaria during pregnancy, and have outlined the Program's strategic and technical approach and key activities and results.

Legacy Statement 1: Establish and promote international evidence-based standards for essential maternal and newborn care through global partnerships

The MNH Program has been a key contributor to the establishment and promotion of international evidence-based standards of care for mothers and their newborns. Collaboration with WHO, UNFPA, FIGO, ICM, UNICEF, and other donors and technical bodies resulted in the development and use of two WHO IMPAC manuals: *Managing Complications in Pregnancy and Childbirth (MCPC)* and *Managing Newborn Problems (MNP).* Both documents, but particularly the *MCPC* manual, have been widely disseminated and used. Uptake at the country level has been extraordinary, with *MCPC* being translated into a variety of languages—including Spanish, French, Laotian, Bahasa, and Mandarin—and used to inform policy dialogue and the development of national standards across Africa, Asia, and Latin America.

In addition to these very important IMPAC manuals, the MNH Program has also developed two other manuals to support the global safe motherhood movement: *Basic Maternal and Newborn Care* (*BMNC*) and *Infection Prevention Guidelines for Health Care Facilities in Low Resource Settings.* In addition, the Program developed the first-ever *Malaria during Pregnancy Resource Package*. This resource is based on the WHO/AFRO Strategic Framework for Malaria Control during Pregnancy and is the only clinical training package dealing with prevention,

identification, and treatment of malaria during pregnancy. It has been used extensively in provider training in West Africa and East Africa, including Madagascar.

The Program has used these standards and guidelines in numerous ways to influence global initiatives and country-level work. For example, through participation in consensus meetings with international organizations and professional associations, the Program contributed to the December 2003 FIGO/ICM Joint Statement on Prevention of Postpartum Hemorrhage. The joint statement has since been launched at the FIGO/Chile conference, the ICM Regional Conference in Hong Kong, and the ICM Regional Conference in Trinidad in April 2002. It was also launched at the Asia/Oceania Regional Meeting on the Prevention of Postpartum Hemorrhage held in Bangkok in January 2004

In Zambia, the only existing national clinical guidelines in the country, the *Integrated Technical Guidelines for Front Line Health Workers* (ITG), were updated in 2002. The safe motherhood chapter was rewritten under MNH Program leadership to conform to international standards outlined in the *Managing Complications in Pregnancy and Childbirth* manual. The MNH Program in Burkina Faso worked with Burkina Faso's Division of Family and Reproductive Health (DSF) to implement one of the most important parts of its safe motherhood strategy: the technical review, validation, and promotion of the policies, norms, and protocols (PNPs) for essential and emergency obstetric care. In addition to incorporating essential practices into the PNP, such as use of the WHO-recommended partograph, the Program assisted with the design and development of a pocket guide for district-level healthcare providers that included job aids for complex procedures.

Also in Burkina Faso, the Program worked with the Ministry of Health and the National Malaria Control Program (NMCP) to operationalize current global standards for the prevention and management of malaria during pregnancy using intermittent preventive treatment with sulfadoxine-pyrimethamine (IPT with SP). With the Centers for Disease Control and Prevention (CDC) and the National Center for Research and Training in Malaria (CNRFP), the MNH Program conducted a burden of disease assessment in 2001. Results were disseminated to 18 countries in West and Central Africa. The data, coupled with similar study results from Mali and Benin, have prompted wide-scale change in policy for reducing the burden of malaria during pregnancy. To date, six countries in West and Central Africa have changed their national malaria control policies to IPT with SP.

Sixteen months after introducing IPT with SP to 26 health centers in the Koupéla district in Burkina Faso, followup data showed that 84 percent of all women received at least one dose of SP during antenatal care, 29 percent received two doses, and 41 percent received three doses. A followup survey to measure the burden of disease (after implementation of IPT with SP) is currently under way in partnership with CDC and CNRFP. Results will be available in late 2004.

Other examples include:

Indonesia. The MNH Program fostered national dialogue and partnership with the MOH, donors, and professional organizations in developing evidence-based materials for use by all partners to achieve national goals for maternal and neonatal health services. From 2001 to 2003, the MNH Program provided technical assistance to POGI and IBI to adapt WHO's *Managing Complications of Pregnancy and Childbirth* for use in Indonesia. In 2003, the MOH decreed that

the result of this adaptation process, the *Practical Guidelines for Maternal and Neonatal Health*, would serve as the national standard operating procedures for maternal and neonatal healthcare. With MNH Program funds, combined with private-sector support from Johnson & Johnson, 52,000 copies of the national guidelines were printed. Activities were conducted by MNH Program Regional Experts to disseminate the guidelines in every province in Indonesia. As a result of these efforts, all midwifery students, medical students, and ob/gyn residents now have access to the *Practical Guidelines*, and approximately 87 percent of ob/gyn doctors and 28 percent of midwives nationwide have a copy of the *Practical Guidelines*. In light of the close of the MNH Program, Johnson & Johnson committed funds to print an additional 20,000 copies of the guidelines to ensure that more midwives obtain copies.

Afghanistan. The MNH Program in Afghanistan advocated for the use of the *MCPC* manual as a key reference and guideline for the country. UNICEF and WHO translated and printed the manual in two Afghan languages, Dari and Pashtu. This manual was also the main reference for the new midwifery education curricula. Building on training funded by the Averting Maternal Death and Disability program and funds from UNICEF, the MNH Program also built capacity for training in comprehensive emergency obstetric care in five national and regional hospitals. These hospitals are UNICEF Centers of Excellence and serve as regional referral centers and training sites. Teams of obstetricians, midwives, and anesthetists were trained in updated knowledge and skills. They now conduct 5-week courses for providers for provincial and district hospitals.

Honduras. The MOH initially commissioned the development of an addendum to the Honduran maternal and neonatal norms. However, the MOH opted for developing and implementing official Essential Maternal and Neonatal Healthcare National Norms. WHO's *MCPC* and *MNP* manuals, the most up-to-date evidence-based materials available, were used in this process. A Norms Technical Review Group (GEN in Spanish), with MNH/Honduras, Universidad Autónoma de Honduras, PAHO, and MOH representatives), was organized and officially established by the Vice Minister of Health. The norms were in their final stage of development at the time of the official close-out of the MNH Program in Honduras.

Guatemala. MNH/Guatemala worked with the MOH to reclassify nursing functions to incorporate increased use of better maternal and neonatal health practices. As part of the process of updating norms and protocols, key life-saving functions traditionally carried out by auxiliary and professional nursing functions (covering 80% of the maternal and child health services in the country) were expanded. Their tasks were outlined in the Classification of Positions and Salaries Manual (*Manual de Clasificación de Puestos y Salarios*) of the National Civil Service Office (ONSEC),[2] giving the nurses better legal backing that facilitates their carrying out newly acquired or updated skills. In addition, the curricula at seven of the eight public nursing schools in Guatemala were reviewed and updated to include the current evidence and more sound learning methodologies.

Bolivia. MNH/Bolivia emphasized the standardization of EMNC services by advocating for legislation on improved practices for maternal and neonatal health. This culminated in Ministerial Resolution No. 496, which makes mandatory the use of 18 improved clinical practices, including active management of the third stage of labor and restrictive use of

[2] ONSEC is the office that regulates the work of all civil servants in the country.

episiotomy. Fourteen of those practices are concerned with clinical procedures, and four are related to information pertaining to patient education and patient rights.

Tanzania. Under the global Roll Back Malaria (RBM) initiative, WHO/AFRO has set the standard for international best practices for the prevention and control of malaria during pregnancy. In Tanzania, the MNH Program worked closely with the MOH and the National Malaria Control Program to operationalize the WHO/AFRO guidelines. The collaboration resulted in national standards and policies that provide guidance on antenatal care services and improved neonatal care, including the prevention and management of malaria in pregnancy. With support from the Program, in 2001, Tanzania changed its national malaria policy to include IPT with SP based on WHO recommendations. The Program went on to develop the *Focused Antenatal Care Malaria and Syphilis in Pregnancy Orientation Package for Service Providers*. According to the Tanzania National Malaria Control Program, IPT coverage increased from 29 percent in 2001 to 65 percent in 2003. The malaria control program attributes this increase in coverage to multiple influences, including the national ANC guidelines and the focused ANC package used for inservice training.

Legacy Statement 2: Improve the quality of skilled attendance by implementing international evidence-based standards and guidelines in national policy, curricula, and competency-based training

The MNH Program's approach to service delivery aims to ensure that women and newborns survive pregnancy, childbirth, and the postpartum/newborn period through the use of evidence-based interventions. The Program promotes interventions known to have the greatest impact on maternal and neonatal health, including the presence of a skilled provider during childbirth and the immediate postpartum/newborn period—the single most critical intervention in saving the lives of women and newborns.

To ensure that providers are competent and that skilled care is both accessible and of high quality, the Program has focused on establishing evidence-based, globally accepted guidelines at the national level (as previously discussed), strengthening pre-service and inservice education curricula, and improving clinical training and service delivery sites using performance and quality improvement (PQI) framework. The Program emphasized competency-based training of providers using adult learning theory and a humanistic approach and including regular followup after training. The Program also used its BP/CR Matrix (*Birth Preparedness and Complication Readiness: A Matrix of Share Responsibility*) to foster planning and communication throughout pregnancy, labor/childbirth, and the postpartum period.

STRENGTHENING PRESERVICE EDUCATION AND INSERVICE TRAINING

Egypt. Egyptian medical and nursing graduates are expected to serve as skilled providers. The Health Workforce Development project in Egypt has ensured that the national core curricula for obstetrics and maternity and gynecologic nursing include evidence-based core competencies that equip the skilled provider to care for women during pregnancy, labor and childbirth, and the postpartum, and to care for the newborn. The revision of the curricula to include these core competencies contributes to improvement of quality of skilled attendance throughout the country.

Afghanistan. The MNH Program introduced competency-based training techniques to government-sponsored midwifery education by developing a 1-year curriculum that emphasized clinical skills and practice. Essential skills as defined in the *MCPC* manual were included in this training. In 2003, 21 midwives graduated from the new program. The MNH Program also provided assistance and competency-based methodologies to a midwifery education program for a new cadre of midwives in Afghanistan: community midwives. The Program provided critical assistance to convince policymakers to expand this program nationally, by establishing clear national policies and guidelines for such expansion.

Nepal. The *National Safe Motherhood Training Strategy (2002)* and *National IEC/BCC Strategy for Safe Motherhood (2003)*, and standards such as those outlined in the *MCPC* manual, were used to guide the development of training curricula for district- and community-level providers (i.e., auxiliary nurse midwives and maternal and child health workers), and in the development of a job aid for maternal and child health workers that focused on active management of the third stage of labor. Evidence-based strategies and standards were also used in establishing protocols and practices at the facility level, and in strengthening two inservice training sites.

Peru. MNH/Peru has supported the MOH in its efforts to improve service delivery by strengthening the preservice education system and curriculum. The strengthened curriculum includes training in essential obstetric skills, focused antenatal care, and management of obstetric emergencies. By implementing evidence-based best practices in maternal and newborn health in 15 midwifery and 17 medical preservice institutions, MNH/Peru has promoted the transfer of these practices to successive cohorts of healthcare providers. In addition, by working closely with USAID/Peru and Proyecto Cobertura con Calidad (the bilateral project between the MOH and USAID/Peru), the MNH Program has maximized the investment in clinical training and facilitated the institutionalization of evidence-based practices.

Haiti. MNH/Haiti worked to improve the maternal and neonatal health knowledge and skills of select preservice and service delivery staff and to strengthen service provider capacity at targeted sites. Originally designed to introduce EMNC services at five sites in 2002 (Cap Haïtien, Pignon, Fort Liberté, Jérémie, and Ouanaminthe), the Program was expanded to five additional sites (Albert Schweitzer, Hinche, Cayes, March, and Jacmel) in 2003–2004 for a total of ten MNH Program sites covering seven of Haiti's nine departments.

Zambia. Through MNH/Zambia's work on strengthening preservice education for midwives, not only does Zambia have the ability to produce more skilled midwives, but preservice education has been strengthened for other cadres, including general nurses, doctors, and medical licentiates. As a result of the preservice program's focus on practical skills and clinical practicum sites, MNH/Zambia has strengthened EMNC practices in 23 facilities in eight districts. More than 165 students have graduated from the strengthened midwifery programs and are posted at more than half of the districts in Zambia.

PERFORMANCE AND QUALITY IMPROVEMENT

Guatemala. A key accomplishment of the MNH Program in Guatemala was the development of an accreditation model based on a set of quality criteria and standards in maternal and neonatal health. By the project's end, more than one-third of the country's public-sector health facilities in seven departments (10 of the 12 of hospitals; 44 of the 90 health centers; 97 of the 323 health posts; 2 of 3 community maternities) had initiated the PQI process with the support of

MNH/Guatemala. Collaboration (both financial and technical) with other international cooperating agencies, international NGOs, and governmental organizations eventually resulted in expansion of PQI to an additional 318 health facilities in ten additional health areas in which a PQI baseline evaluation has been conducted. Monitoring PQI results (how facilities perform according to set standards) is a useful way to see improvements in measures that contribute to better maternal and neonatal outcomes. For example, infection prevention practices improved at every level of health facility, addressing an important cause of mortality, sepsis (rates of sepsis were not monitored by the MNH Program). Adequate decontamination of instruments rose from 0 in 2001 to 50 percent in 2002 to 100 percent in 2003. Up from 28.5 percent in 2001, 63 percent of hospitals had adequate supplies and equipment for EMNC in their labor and delivery rooms in 2003. These improvements occurred in hospitals supported by MNH/Guatemala interventions (7 in 2001; 10 in 2002; 8 in 2003).

Burkina Faso. The Koupéla model health delivery system incorporated aspects of both clinical care and community participation. The MNH Program began implementation by using the PQI process to identify interventions to improve the supervisory capacity of the District Health Management Team (DHMT). The Program then repeated the PQI process with healthcare providers, community health management committees (CoGes), and community members. Based on identified gaps in services, the Program worked with other partners, including UNICEF, to provide essential equipment and supplies, transport, and communication systems. In addition, participants identified the need for additional training in infection prevention, essential and emergency obstetric and newborn care, malaria in pregnancy, and the prevention of mother-to-child transmission of HIV.

Indonesia. The PQI approach was used in Indonesia to develop high-quality service delivery and training sites that could serve as models for scale-up. Clinical knowledge and skills of midwifery staff, obstetrics residents, and specialists were upgraded and standardized at hospitals and clinics used for inservice training and precepting students. The percentage of trained providers practicing specified skills increased from 35 percent in 2001 to 85 percent in 2003 in sites supported by the MNH Program. To decrease the need for retraining of graduates, the Program upgraded the classroom curriculum and clinical practice for midwifery students in four areas of competency: normal antenatal, intrapartum, postpartum (including breastfeeding and family planning), and newborn care. As a result of these interventions, three classroom training sites and 12 clinical sites were established as high-quality service delivery and training sites for inservice and preservice training in normal delivery care. In addition, three classroom training sites with 48 clinical sites were established as a high-quality service delivery and training system for managing bleeding in early pregnancy.

Honduras. MNH/Honduras used a comprehensive approach that encompassed two main components: strengthening preservice education in the medical and nursing schools in EMNC and improving performance and quality improvement in six hospitals. PQI efforts focused on action—moving quickly from identifying performance gaps to implementing concrete changes, based on intervention plans written by PQI teams. Plans emphasized use of partographs, restrictive episiotomy, active management of the third stage of labor, reducing restricted entry to labor and childbirth rooms; establishing a special area for immediate postpartum care within the labor and childbirth ward, privacy in each patient area; and improved patient flow. Six hospitals in Regions 2 and 5 participated. Regions 2 and 5 are characterized as mostly rural, with difficult access to health services, and the maternal mortality ratios are among the highest in the country. In Region 5 quality of EMNC improved from 19 percent of criteria achieved in 2001 to 58

percent achieved in 2003. In Region 2, where the PQI process started a year later, achievement of quality criteria improved from 19 percent in 2002 to 36 percent in 2003. Significant change was measured in labor and delivery care with hospitals showing an improvement from an average of 8 percent of quality criteria achieved at baseline to 44 percent in 2003.

Legacy Statement 3: Generate shared responsibility and coordinated action among policymakers, health facilities, providers, communities, families and women through birth preparedness and complication readiness

Birth preparedness/complication readiness (BP/CR) is both the central concept in the MNH Program's strategic approach and the organizing framework for action to increase the use of skilled maternal and newborn healthcare. With BP/CR as its framework, the Program applies its technical expertise to improve service delivery, to generate awareness and demand for high-quality services, and to mobilize families, communities, and policymakers to take actions that will increase the use of skilled providers at birth. The Program has worked with each group of stakeholders to raise awareness of the importance of preparing for childbirth and potential complications and to encourage actions that will ensure that women seek, reach, and receive skilled care during pregnancy and childbirth and in the event of complications. Country programs have made great strides in raising awareness of the concept of BP/CR, in establishing shared responsibility for safe motherhood, and in promoting actions to ensure skilled care at birth, including the preparation of family and community emergency plans.

Indonesia. A participatory, bottom-up approach was implemented in Indonesia to prepare communities, families, and women for birth and potential complications. Birth preparedness is a familiar concept to Indonesians, and it is embedded in the concept of SIAGA, meaning "alert" or "ready." Building on this concept, the MNH Program established the Desa Siaga ("alert village") system and worked with 55 villages to build community awareness of and actions related to BP/CR. By the end of the MNH Program, all districts in West Java province had adopted the BP/CR framework. The initial focus of the SIAGA campaign was on husbands. The MNH Program expanded this to include communities, midwives, and villages. In West Java, the SIAGA campaign became a unifying concept, exemplifying shared responsibility within communities.

Nepal. The BP/CR Matrix and the National IEC/BCC SM Strategy were used as resources in the development of SUMATA initiative, including the *Jeevan Suraksha* (Birth Preparedness Package). These efforts required input from policymakers, health facilities, providers, communities, families, and women. The resulting strategies and materials encourage stakeholders at all levels to take responsibility for pregnancy outcomes. This work is reinforced through the efforts of the Safe Motherhood Network to establish district-level networks to promote the concepts of safe motherhood through social mobilization.

Burkina Faso. The Koupéla model health delivery system incorporated aspects of policy, clinical care, and community participation. After working at the national level with the MOH to articulate policies, norms, and protocols for safe motherhood, the Program then implemented these guidelines at the district level. Through provider training, site strengthening, and community participation, the Koupéla district has seen significant improvements in the use of skilled care both during pregnancy—ANC coverage increased from 21 percent in 2001 to 58 percent in 2004—and during labor and delivery—coverage increased from 39 percent in 2001 to

58 percent in 2004. The percent of women who made a postpartum visit in a health facility no more than one week after birth also increase—from 39 percent in 2001 to 59 percent in 2004.

In addition, approximately 58 women in the district have benefited from a 60 percent reduction in their direct financial contribution for obstetric emergency care. This is the result of a cost-sharing scheme established in partnership with the DHMT, CoGes, and community members. Families are now donating 25CFA per year (about US $0 .25) for each family member. The fund covers 60 percent of costs related to emergency obstetric care. The family is required to pay the remaining amount.

Legacy Statement 4: Scale up evidence-based safe motherhood practices, tools, and approaches by collaborating with global and national partners

Scale-up is crucial to ensuring broad-based programming and the achievement of program results and long-term impact. The MNH Program has increased its reach and impact by expanding into new geographic areas in select countries, by expanding the number and types of technical components in a program, by engaging in national-level policy dialogue and influencing policy change, and by forming strategic alliances with other partners.

In addition, USAID's presence in international forums such as the Roll Back Malaria Working Group for Malaria in Pregnancy, the WHO Reproductive Health Task Force and the recently formed Partnership for Safe Motherhood and Newborn Health contributes to global learning, priority setting, and the mobilization of resources, and ensures the expansion of the U.S. government's investment in safe motherhood. The MNH Program has been an active member of these alliances and has worked with them to set the future agenda and to share lessons learned, tools and approaches, and technical resource materials to expand state-of-the art programming in countries well beyond the Program's portfolio.

Indonesia. As many as 87 percent (27 of 31) of provinces nationwide have documented using MNH Program tools and approaches. Every province and approximately 60 percent of all districts in Indonesia learned about replicating MNH Program tools and approaches during the mini-university dissemination activity held in May 2004. During the SARS outbreak, WHO/Indonesia looked to the MNH Program as the leading expert in infection prevention. MNH/Indonesia carried out training for hospital staff at the designated national SARS hospital in Jakarta using the Indonesian translation of the MNH Program-supported manual *Infection Prevention Guidelines for Healthcare Facilities with Limited Resources*. In neighboring East Timor, WHO and Family Health International have not only adopted MNH Program tools and approaches, they have also been using trainers developed under the MNH Program to strengthen services and training.

Nepal. In 2002, the MNH Program worked with the USAID-funded bilateral Nepal Family Health Program (NFHP) (2001–2006), USAID/Nepal, and key safe motherhood partners to develop a transition plan outlining how NFHP and other partners could use the products, tools, and approaches developed with assistance from MNH/Nepal. NFHP and USAID have since supported the cost of printing the *Jeevan Suraksha* (Birth Preparedness Package) and sustaining the SMSC secretariat, and are committed to developing additional service and training sites.

Haiti. National-level activities have drawn on partnerships, collaboration, and scale-up of program initiatives to stakeholders and programs. For example, MNH/Haiti introduced the

partograph and active management of third stage of labor into the preservice midwifery curriculum. As a result, MNH/Haiti contributed to strengthening the knowledge and skills of newly graduating midwives, an important first step in institutionalizing essential maternal and newborn care practices. In addition, the MOH and the National Secretariat of Literacy have adopted the BP/CR Matrix as a tool for their ongoing national adult literacy campaign. The Program also collaborated with the Peace Corps in Haiti to promote BP/CR at the community level. By the end of the MNH Program, BP/CR and the Program's behavior change approach were integrated into the national Peace Corps training program for new volunteers.

Honduras. In 2004, in response to a special request made by the MOH, MNH/Honduras conducted a condensed 3-day PQI and EMNC workshop for the MOH-appointed maternal and neonatal morbidity and mortality committee and integrated technical staff from the Quality Assurance, Maternal Health, Hospital, Statistics, and Epidemiological Surveillance Units. This event was intended to improve the MOH's ability to expand, institutionalize, and sustain the PQI process in selected health facilities in other health regions in the country (selected based on their high maternal and neonatal mortality rates, access to quality services, and geographical area).

Burkina Faso. MNH/Burkina Faso's close work with CDC and CNRFP to assess the burden of disease caused by malaria during pregnancy is another contribution to scale-up of best practices. Their study results were disseminated study results to 18 countries in West and Central Africa and have prompted wide-scale change in policy for reducing the burden of malaria in pregnancy in WCA countries, including Ivory Coast, Ghana, Senegal, Mali, Democratic Republic of Congo, and Gabon.

Tanzania. The MNH Program in Tanzania has scaled up from 3 regions working with the public sector to 11 regions working with faith-based organizations and preservice schools, all of which are using the orientation package, job aids, and training materials developed. The focused ANC checklist, an important tool in the competency-based training process, has been adapted by the Zonal Training Centers for followup and support supervision.

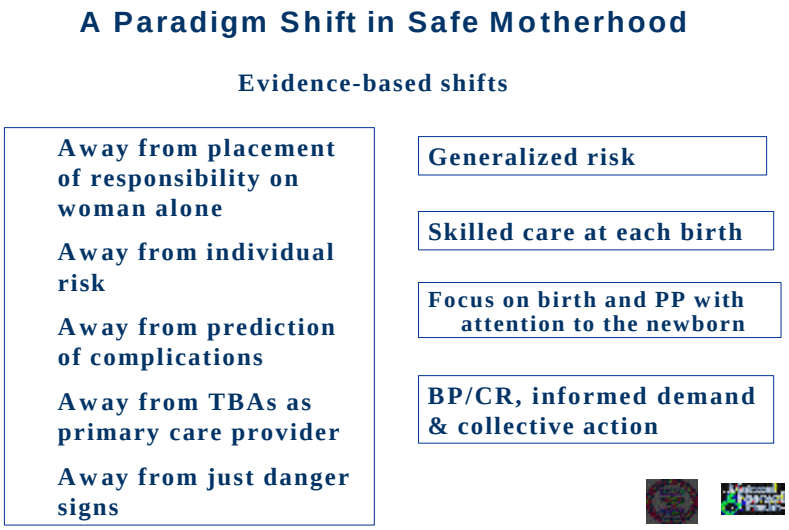
Zambia. The MNH Program has led the national dissemination and implementation of guidelines on malaria during pregnancy. These guidelines promote the use of ITNs, intermittent preventive treatment for all pregnant women, improved prevention and clinical management of anemia, and improved case management of symptomatic malaria in pregnant women. The MNH Program, in collaboration with the Training in Reproductive Health Project and other USAID-funded partners (such as Linkages and the Elizabeth Glaser Pediatric AIDS Foundation), has helped the Central Board of Health develop a standardized national training package to scale-up prevention of mother-to-child transmission of HIV/AIDS services nationally. This package integrates relevant best practices in antenatal, intrapartum, and postpartum care, and is supported with a Maternity Counseling Kit—also spearheaded by MNH/Zambia—as one of the key job aids to improve the quality and consistency of antenatal counseling.

Legacy Statement 5: Build the evidence base for social and behavior change interventions that generate informed demand and collective action for safe motherhood

The MNH Program's behavior change interventions (BCI) component has built on progress made by many others active in safe motherhood. It has included behavior change communication, community and social mobilization, advocacy, and alliance building. Key lessons that informed the MNH Program BCI strategy include:

- A shift in emphasis from predicting or determining an individual's risk and individual responsibility to a more generalized understanding of the need for grappling with community and national environments and associated community-based risk factors;
- A focus on birth and the postpartum period and have a skilled provider in attendance;
- Less emphasis on attempts to predict complications before childbirth;
- More emphasis on informed demand and demand generation to increase health-seeking behavior, utilization of services, and knowledge of necessary actions at the community, family, and individual levels;
- An understanding of the need for community involvement/collective action;
- The need for an integrated approach that includes advocacy, improved provider skills, upgraded facilities, and behavior change interventions (BCI); and
- The need for collaboration and alliances to optimize resources and bring attention to the problem of maternal death.

Figure 6. Evidence-Based Shifts in the Safe Motherhood Paradigm



The MNH Program has promoted BP/CR as a means to reduce the delays—in deciding to seek care, reaching care, and receiving care—that often result in maternal and newborn deaths. A major focus and goal of the Program has been to develop awareness of and encourage communication about the factors that cause these delays, and to promote shared responsibility for BP/CR among women, families, communities, providers, facilities, and policymakers. Central to this focus is the tenet that safe childbirth depends on the availability of community- and facility-based systems for managing normal births, identifying the danger signs in pregnancy, childbirth, and the postpartum period, and ensuring transport to a skilled provider at an appropriate facility during emergencies. The MNH Program has maintained a commitment to building the evidence base for social and behavior change interventions that generate informed demand and collective action for safe motherhood.

THE WHITE RIBBON ALLIANCE

In its first year, the White Ribbon Alliance (WRA) began to lay a foundation for rapid expansion. USAID allocated the initial funding for the WRA's member organizations, including the MNH Program, to establish and support country-based alliances. The MNH Program helped establish national WRAs in Burkina Faso, China, Haiti, Indonesia, Nepal, Nigeria, and Zambia. Each country alliance developed its own identity, priorities, and strategies for improving maternal health in its communities. By being flexible about how people in each country develop partnerships, the alliance has fostered local ownership and optimal results at the grassroots level. The MNH Program adopted the WRA social mobilization framework as it began to work with communities to establish safe motherhood as a grassroots priority. The approach relies on building strong in-country alliances for advocacy, championship, and information dissemination at all levels. These alliances help to extend the reach of the MNH Program beyond the borders of a project area, facilitating replication and scale-up.

One of the major strengths of the national-level WRAs is their ability to develop unique, customized events and creative responses to the problem of maternal mortality in their countries. The examples illustrate the WRA's innovative activities:

- In **Zambia**, the Zambia White Ribbon Alliance for Safe Motherhood (ZWRASM) created a mobilization toolkit that includes technical information on safe motherhood and ideas for planning and implementing activities, including guidelines for conducting group discussions, scripts for community theater presentations, and information on birth planning. This toolkit has been shared with WRA members worldwide.
- The WRA of **Indonesia**, *Pita Putih*, is working with government officials to plan national approaches to improving maternal health, including input on a draft health law. This is the first time an NGO has been invited to participate in high-level maternal health planning.
- **Globally**, the MNH Program has initiated the first monitoring system to capture results from community-driven campaigns. All national-level alliances can access the WRA leadership for support in these monitoring efforts, and several have held national meetings with partial support from the MNH Program to train WRA members in using the monitoring tools effectively.

BCI ACTIVITIES IN BURKINA FASO, GUATEMALA, INDONESIA, AND NEPAL

Indonesia. The SIAGA campaign was promoted through the mass media campaign as part of the Mother Friendly Movement. It benefited from the political support of the White Ribbon Alliance and strong support from formal and informal community leaders, midwives, and other community members. The success of the Desa SIAGA campaign was evaluated by comparing the baseline and followup surveys conducted in 6 districts of West Java. Preliminary results of a comparative analysis between baseline and endline samples of women, men, midwives, and community leaders revealed that women and men who participated with the Desa SIAGA campaign were significantly more likely to have given birth with a midwife and much less likely to have used a traditional birth attendant than those not exposed to the Desa SIAGA campaign. Community members exposed to Desa SIAGA were significantly more knowledgeable about BP/CR schemes and more likely to have used these schemes in preparation for and during childbirth. Eighty-five percent of women from MNH Program village interventions who had recently given birth said that they were attended by a skilled provider, compared to the 49

percent of their counterparts in control villages. The increase in use of skilled providers can be directly attributed to improved access to care: 78 percent of key informants from MNH Program intervention villages said that transport exists in their village to help women and newborns access skilled care, compared to 29 percent of those in control villages. Approximately 69 percent of key informants from an MNH/Indonesia intervention village said that a funding mechanism was in place to help women pay for skilled care, compared to 21 percent in control villages. Women and husbands who were exposed to Desa SIAGA displayed higher levels of knowledge of danger signs than did their unexposed counterparts. For example, about 31 percent of the women respondents who were exposed to the SIAGA campaign reported severe vaginal bleeding as a danger sign during childbirth. In comparison, 12 percent of the unexposed women were aware that severe vaginal bleeding is a danger sign at childbirth.

Nepal. The SUMATA initiative, which includes a mass media campaign and the *Jeevan Suraksha* (Birth Preparedness Package), was critical in building the evidence base for social and behavior change interventions. A followup survey conducted in 2003 demonstrated that the SUMATA initiative reached 49 percent of the sample population during a 3-month period. Respondents who were exposed to SUMATA reported taking specific actions to improve BP/CR as a result of exposure to the messages. During the baseline situational analysis in 2001, only 64 percent of women reported using antenatal care, while 80 percent of women responding to the followup survey reported using antenatal care. In addition, 57 percent of women reported saving money for childbirth at baseline, but 84 percent of women reported saving money after exposure to the SUMATA intervention.[3]

Guatemala. As part of an evaluation process to measure the impact of the MNH/Guatemala BCI component, the MNH Program carried out household surveys in 2001 and 2003. Women of childbearing age (N=1,098) and their partners (N=545 men) living in 55 communities in three Guatemalan departments were polled. Key findings from the impact evaluation included the following:

- Significantly more women and men in the followup knew that severe bleeding was a danger sign during pregnancy: 66 percent of exposed women and 51 percent of exposed men at followup recognized this danger sign, compared to 31 percent of women and 22 percent of men in the baseline.
- The evaluation showed a significant ($p<.01$) increase in the percentage of men and women who knew that a woman should be taken to a healthcare facility if the placenta is not delivered within 30 minutes after birth.
- Exposed women in the followup (93%) were significantly ($p<.01$) more likely than women in the baseline (65.5%) to believe that a woman should receive antenatal care from a skilled provider.
- At followup, one-third (35%, $p<.01$) of the women exposed to the intervention reported having a plan for transportation in case of an obstetrical emergency.
- The percentage of women who reported having set aside money for an emergency was significantly higher ($p<.01$) for those exposed at the followup than at baseline.

[3] The baseline situational analysis included pregnant women, while the followup survey included both pregnant and women who had given birth in the previous 3 months.

- The percentage of women who believed women should receive postpartum care rose from 62 percent at baseline to 82 percent ($p<.01$) at followup. A similar increased was found among the men in the study.

Burkina Faso. The MNH Program in Burkina Faso used the village health management committees (CoGes) to initiate dialogue promoting positive actions for safe motherhood. Members of the CoGes were trained in the PQI approach and helped community members identify gaps in, and ways to improve, maternal and neonatal healthcare. The CoGes partnered with TBAs and local leadership groups to set up mechanisms for emergency transport and funds to assist community members with obstetric or neonatal health crises. In 2003, a network of 13 CoGes was formed; the network holds regular meetings to improve communication between healthcare providers and the community. The MNH Program, in collaboration with UNICEF, worked with the CoGes to establish a communication system and revolving emergency funds for emergency transport and medical services.

Trained healthcare providers conducted monthly discussions with community members about birth preparedness, recognition of danger signs, and ways to organize rapid responses to maternal and neonatal emergencies. These meetings strengthened community members' trust in their local health providers. In addition, TBAs and health providers met regularly to discuss danger signs, BP/CR, malaria during pregnancy, and prevention of mother-to-child transmission of HIV/AIDS.

Mass and local media were also used to spread safe motherhood messages. A local theater group wrote a play about BP/CR and performed it in 80 villages for approximately 10,000 people. In coordination with Plan International, three local radio stations broadcast MNH Program messages at the district level about once per month. Local women in the program villages developed safe motherhood songs in the local language. The songs are based on MNH Program messages and are performed during ceremonies and public events.

Establishing, developing, and expanding a White Ribbon Alliance has been another key MNH Program focus in Burkina Faso since 2002. The national WRA has been an effective way to bring stakeholders together to work for safe motherhood. The WRA of Burkina Faso was officially launched in March 2002 on International Women's Day. The celebration included marches, bike races, fashion shows, games, and other events to highlight safe motherhood.

The PQI initiative and community-based and media approaches to increasing demand are working, with skilled attendance at birth increasing from 39 percent at baseline (2001) to 58 percent at followup (2004). Increases in knowledge of bleeding during pregnancy, dizziness, rapid or reduced fetal movements, and edema in the hands or face were found. Knowledge of danger signs during birth, the postpartum period, and the neonatal period increased significantly among women and husbands exposed to MNH Program activities.

In each of these countries, the MNH Program and partners were able to:

- Encourage the sharing and optimization of resources,
- Use data to identify the most common causes of maternal death and create interventions to directly address them,
- Cast a wide net and create a climate of trust and collaboration,
- Organize and build capacity for local leadership and action,
- Challenge social norms and encourage shared responsibility,

- Link providers to the community and promote their services,
- Use mass media,
- Mobilize around events to capture attention, and
- Recognize the multiple factors that contribute to lasting behavior change and work on many levels simultaneously.

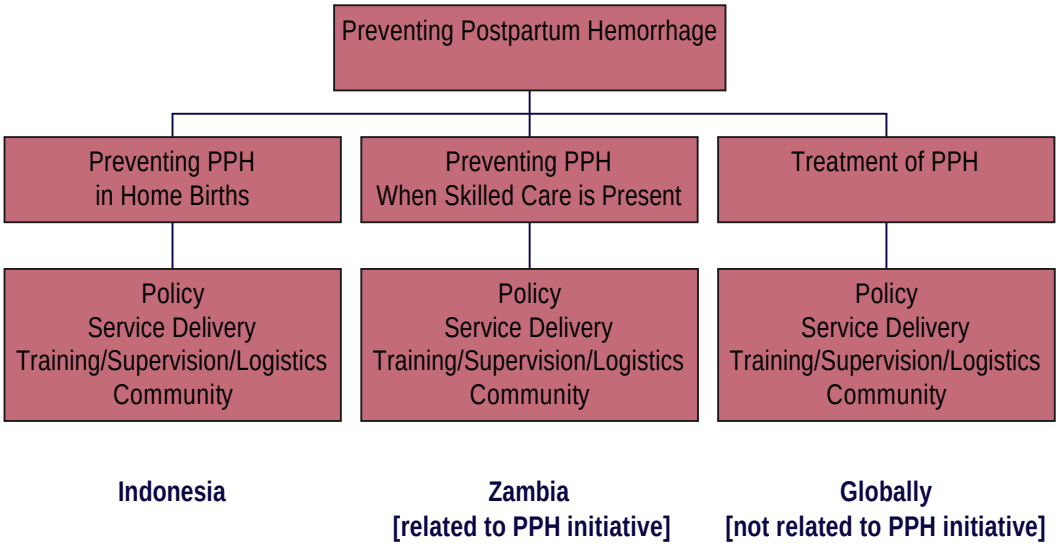
Several conclusions can be drawn from the MNH Program's investments in BCI:

- Demonstrating the impact of BCI is an increasingly serious challenge for programs that must compete for scarce resources in an international environment fraught with emergencies and crises.
- The BP/CR Matrix is a useful framework for addressing all audiences in a simultaneous, integrated way.
- There is a dynamic tension between the clinical and BCI components of safe motherhood programs. Timing is crucial to the success of an integrated program. To avoid mobilizing communities to low-quality services, clinical improvements such as provider training and facility upgrades must be in place before communication efforts encourage increased use of services.
- Mass media can be an important tool in safe motherhood programs.
- Building a brand name for safe motherhood can extend the concept of BP/CR. A brand gives a unique style and identity to a product or service. It can also serve as shorthand or as a nickname for a complex idea.
- For maximum impact, health messages must be consistent and broadcast over a fairly long period of time.
- Community mobilization activities often are difficult to get started and take longer than anticipated. Community mobilization is a critical investment necessary for significant social change to occur. Success is greatest where advocacy for preparation at both the community and individual levels is integrated with the design and implementation of behavior change communications, and where integration is a priority to stakeholders and to program planners. If investments are not made at the community level, there is little chance that sustainable change will occur at any level.
- Three elements of community mobilization that are central to effectively addressing delays are identification of danger signs and complications, transport systems, and savings.
- White Ribbon Alliances can powerfully support and mobilize stakeholders for action and should be linked to behavior change communication efforts to help spread safe motherhood messages.

PREVENTION OF POSTPARTUM HEMORRHAGE

The MNH Program's work to prevent and manage postpartum hemorrhage (PPH) has focused on promoting the use of active management of the third stage of labor (AMTSL) by skilled providers and promoting the use of misoprostol where a skilled provider is not available. The Program implemented activities in PPH prevention and management, including policy and education in AMTSL, throughout the life of the program. These activities concentrated in particular on Indonesia and in Zambia (**Figure 7**).

Figure 7. MNH Program Activities in the Prevention of Postpartum Hemorrhage



Through USAID's Prevention of Postpartum Hemorrhage Initiative, the Program participated in the development of a Joint Statement on Prevention of Postpartum Hemorrhage. Experts in PPH, leaders of ICM, FIGO, and leaders of other midwifery and medical professional associations agreed that AMTSL includes interventions designed to facilitate the delivery of the placenta by increasing uterine contractions and by averting uterine atony.

The MNH Program's efforts on PPH prevention consisted of the following:

- Inclusion of AMTSL in all clinical trainings.
- Prevention of PPH Initiative in Zambia: The PPH Initiative, integrated directly into the three-pronged approach of the MNH Program in Zambia, focused on the areas of service delivery, policy, and behavior change and social mobilization. MNH/Zambia service delivery interventions included strengthening preservice education in midwifery at the three national registered midwifery schools and simultaneously strengthening maternal and neonatal health services at the service delivery sites surrounding the midwifery schools that are used as clinical training sites. This effort served as the ideal platform for introducing the PPH Initiative into existing maternal and neonatal health services.
- Rollout of misoprostol use in Indonesia and in the Asia/Near East Region.
- Costing studies on AMTSL in Zambia and Guatemala.

Training in AMTSL

Drawing on the IMPAC manual, *Managing Complications of Pregnancy and Childbirth*, the MNH Program has long brought evidence and clinical skills on AMTSL to its technical training in both inservice and pre-service settings.

Prevention of PPH Initiative Activities in Zambia

This initiative, begun in the Program's fifth year, was carried out in collaboration with a range of partners in Zambia, including the Central Board of Health. The General Nursing Counsel, responsible for certification and licensing of nurses and midwives throughout the country, took on the role of encouraging schools to include AMTSL in midwifery curricula. District health management teams in the four districts took on the role of determining an appropriate district-specific action plan, and also played a key role in activity implementation and support. Hospital management teams for hospitals in the four districts participated in discussions about intervention development, and were key in supporting necessary changes to support AMTSL-related training and practice. Both Zambia Integrated Health Programs and the Zambia White Ribbon Alliance for Safe Motherhood (ZWRASM) played a role in the community activities. ZWRASM's members include NGOs and other groups that work in communities.

MNH/Zambia included the understanding of active management of the third stage of labor, specifically for the prevention of postpartum hemorrhage, in the national safe motherhood agenda. Advocacy for the PPH Initiative was incorporated into the existing policy efforts to formalize the national reproductive health clinical protocols and to promote safe motherhood awareness at both the national and community levels. A steering committee comprised of key government and facility stakeholders was created to pursue the endorsement of PPH prevention as a key intervention in the reduction of maternal mortality. This steering committee met to decide on implementation plans in the four districts where a baseline assessment was completed.

The findings of the baseline assessment implied that a PQI approach would be applicable. The approach included interventions that addressed both systems and individuals (healthcare provider and client). Related activities in these districts addressed policy, site strengthening, pharmaceuticals, training, community level, and monitoring and evaluation.

Rollout of Misoprostol Use in Indonesia and Asia/Near East Region

The Safety, Acceptability, Feasibility and Effectiveness Study in Indonesia demonstrated that community-based distribution of misoprostol during the antenatal period and use of the drug immediately after home birth are safe, acceptable to women and families, and programmatically feasible, and can lower the incidence of postpartum hemorrhage. The study demonstrated that a strategy combining the use of active management of third stage using oxytocin provided by a midwife and the use of misoprostol by the woman if a midwife is not available at a home birth has the greatest potential for expanding the prevention of PPH.

Based on the successful SAFE study, the MNH Program, with support from USAID/W Asia Near East, implemented activities to roll out use of misoprostol for PPH prevention in the region. At the Indonesia national steering committee meeting in July 2003, the MOH had made a national commitment to rolling out this program across the country by committing funding to this effort. The MNH Program provided some technical assistance to the MOH as it began to

implement this program. The first activity was a 2003 internal USAID scientific and stakeholder review of SAFE study results. Because of the wealth of research on prevention of PPH, the scientific review by USAID and other scientists strengthened the case for the benefits of misoprostol. The review also assisted in the successful presentation and discussion of the study results during the PPH Initiative-sponsored meeting in Ottawa in August 2003.

In January 2004, an Asia/Near East regional meeting was held in Bangkok with a range of stakeholders, including leaders of ministries of health, the professions, programs, and development partners. The purposes of this meeting were to:

- Inform stakeholders in the region of the study results,
- Discuss operational implications,
- Secure development community collaboration,
- Develop a framework for a regional strategy for rolling out the program, and
- Identify a country or countries in the region for possible rollout of the program.

The Bangkok meeting was very successful, with much interest generated in the community approach to PPH prevention. Before rolling out the approach in the region, however, the MNH Program felt that it would be prudent to try to apply the study results and the lessons learned from service rollout in Indonesia. The MNH Program transitioned from study to implementation in Bandung.

Completion of, dissemination, and rollout of the Indonesia PPH study continues. The planned rollout in the study district included work in two areas: **policy and advocacy** and **implementation**. The policy and advocacy work includes drug procurement, regulatory issues relevant to kaders distributing the drug, and buy-in from district stakeholders to implement. The work on implementation includes refining the PPH study training modules, translation of training modules and counseling materials as needed, recruiting and training kaders, bidan, and supervisors in the new region, deciding how program implementation will differ from study implementation, and developing a monitoring plan.

To prepare for the rollout, the MNH Program has developed tools and guidelines for implementing a community-based distribution system for use of misoprostol for prevention of PPH. Such materials can be used both to assist in implementation and to encourage national and local-level stakeholders to support the intervention.

Costing Study on Active Management of the Third Stage of Labor

To augment the MNH Program technical assistance to the education and health services sectors in Guatemala and Zambia, the MNH Program designed a study, entitled “Is Active Management of the Third Stage of Labor Cost-Effective for Health Facilities? A Case Comparison Study in Guatemala and Zambia” to evaluate the cost effectiveness of AMTSL. In order to add strength to the argument for universal routine use of AMTSL, the Program wanted to see if the additional costs of personnel and material resources related to the practice would be offset by the costs saved by better maternal outcomes. The costs saved would be related to the resources required for the management of postpartum hemorrhage, the major maternal complication avoided by AMTSL.

The findings of the study demonstrate that implementation of AMTSL as the standard for clinical management of the third stage of labor are, at a minimum, cost-neutral (Guatemala) and, at best, cost-saving (Zambia). Under both circumstances, maternal lives could be saved. These findings, in conjunction with studies conducted in both developed and developing countries and in both high- and low-resource settings, offer a compelling argument in support of AMTSL as a clinical practice guideline, with both client and financial benefits as an outcome.

PREVENTING AND MANAGING MALARIA DURING PREGNANCY

USAID is a lead partner in the global fight against malaria. As a Roll Back Malaria (RBM) partner, USAID has dedicated increased resources to the prevention and management of malaria in pregnant women, children less than 5, and the general population—with a particular focus on Africa, where the global burden of malaria is highest. Recognizing the MNH Program's expertise in the delivery of essential maternal and newborn care services and linkages to the prevention and management of malaria during pregnancy through antenatal care, USAID identified the Program as a key player in expanding services to pregnant women.

In 1999, the USAID/W/Africa Bureau convened a core group of partners to identify technical issues related to malaria during pregnancy and areas for further research and investigation, and to disseminate key strategies and approaches for the effective prevention and management of malaria during pregnancy. The MNH Program was invited to the table along with other lead partners, including WHO, CDC, UNICEF, the World Bank, and other cooperating agencies. This group acted as a catalyst for action at the country level and worked to develop a strategy for action, including policy changes in support of IPT with SP and ITNs. MNH Program countries such as Burkina Faso, Tanzania, and Zambia were engaged at varying levels in the prevention of malaria during pregnancy, and provided valuable insights into issues for expanded programming.

By 2002, USAID/W resources for malaria had increased and a number of partners were pushing the agenda forward with guidance from the RBM Partnership. The MNH Program became one of four core members of the USAID/W Malaria Action Coalition (MAC). In 2003, the Director of the MNH Program was elected as the Chair of the RBM Partnership Working Group for Malaria during Pregnancy (RBM MPWG). The MAC—a partnership that included WHO/AFRO, CDC, RPM-Plus, and the MNH Program—was charged with supporting the global malaria agenda by providing technical leadership, sharing tools and approaches, and expanding programming in Africa. Within the MAC's first year, the MNH Program was asked to provide assistance to Ghana, Kenya, Nigeria, Rwanda, and the West Africa Regional Program (with an emphasis on Burkina Faso).

At the same time, the MNH Program was supporting a global agenda that included intensive review of the WHO *Strategic Framework for Malaria Control during Pregnancy in the WHO Africa Region*, the development of the first-ever resource package for the prevention and control of malaria during pregnancy (based on WHO's Strategic Framework), and the development of experts in this field who would be available to other organizations and countries for expanded training and capacity building. In 2003, the MNH Program, in partnership with USAID, CDC, WHO, and others, facilitated the establishment of the Coalition for the Prevention and Management of Malaria in Pregnancy in East and Southern Africa (MIPESA) and the Coalition for the Prevention and Management of Malaria in Pregnancy in West Africa (RAOPAG). The Program was also tasked with supporting the secretariats to these coalitions and ensuring their rapid start up and continued support to the coalitions.

The MIPESA Coalition includes representation from ministries of health, including national malaria control programs and divisions of reproductive health, from Kenya, Malawi, Tanzania, Uganda, and Zambia. RAOPAG includes the same representation from the ministries of health from Benin, Burkina Faso, Cote d'Ivoire, Gambia, Togo, Guinea, Madagascar, Mali, Mauritania, Niger, Senegal, and Sierre Leone. While MIPESA is a bit more mature, both coalitions have convened meetings to share lessons learned, relevant research studies and findings, technical information regarding malaria during pregnancy (including interplay with HIV, issues related to increasing SP resistance, and the availability of new drugs for IPT), and resources. The coalitions also act as a catalyst for increased action at the sub-regional and country levels and are linked to the RBM Malaria during Pregnancy Working Group as well as WHO networks such as the East Africa Regional Network (EARN).

Country programming has emphasized integrating the prevention and management of malaria during pregnancy through ANC services. The MNH Program worked in Ghana, Nigeria, and Rwanda with other MAC partners to share information about effective approaches and to promote policy dialogue and change, largely toward the use of IPT with SP. While challenges remain, both Ghana and Nigeria have adopted IPT with SP. Rwanda continues to consider other options. Given the adoption of IPT with SP in Ghana and Nigeria, the MNH Program worked with these countries to support stakeholder meetings to share programming approaches and tools and to initiate training of trainers and providers for rapid uptake of the approach at the facility level. In Kenya, the MNH Program expanded the very successful work JHPIEGO had done with DFID funding to additional districts. The 2003 Kenya Demographic and Health Survey (KDHS) reports that IPT coverage is currently 77 percent among pregnant women making ANC visits.

MNH Program work in Burkina Faso has influenced national policy dialogue as well as the development of a demonstration project in the Koupéla district. When the Program was initiated in the Koupéla district, a burden of disease assessment from CDC and the MNH Program determined that prevalence of malaria during pregnancy was high even among women who were taking chloroquine. Based on this information and information from research conducted in East Africa, the MOH agreed to test the use of IPT with SP among women attending antenatal clinics in the Koupéla district. Sixteen months after introducing IPT with SP to 26 health centers in the Koupéla district, followup data showed that 84 percent of all women received at least one dose of SP during antenatal care; 29 percent received two doses; and 41 percent received three doses. A second burden of disease assessment is being conducted. Results will be available in late 2004—it is anticipated that the results will confirm the efficacy of IPT with SP for the prevention of malaria during pregnancy and related improvements in newborn outcomes.

Challenges and Opportunities in Preventing and Managing Malaria

Despite the many successes, much remains to be done. While many countries, such as Kenya, Malawi, and Tanzania, have adopted IPT with SP, there are many others that have not. To meet the Abuja targets or the Millennium Development Goals, the uptake of IPT with SP must advance rapidly. Efforts to promote IPT with SP must continue, and in countries such as Rwanda, where there is government resistance to this strategy, alternatives must be identified and applied. Countries that have adopted IPT with SP need to continue to advance programming and expand access to these services (including ITNs) to vulnerable and hard-to-reach populations. Areas that are hard hit with HIV, such as southern Africa, must also consider the ramifications of malaria in HIV-positive pregnant women and step up their efforts to protect these women from exposure to malaria and subsequent infection. In addition, issues such as the

negative consequences of combined use of clotrimoxazol and IPT with SP in HIV-positive pregnant women must be addressed.

Ministries of health must also continue to strengthen essential maternal and newborn care services from the household to the hospital and must recognize and promote ANC as the key entry point for other services, including skilled care at birth. At the same time, home-based care and community-based outreach must also be explored and established as many women continue to have limited access to facility-based care. Models for home-based ANC must be identified and packages of care must be defined.

Issues related to commodities and their distribution, drug quality, and access to SP through the private sector (including pharmacies and rural drug vendors) need to be addressed, and governments, in partnership with donors and other funding sources, must ensure the long-term availability of SP, treatment drugs, and other healthcare commodities.

CONCLUSION

Based on results to date and an examination across country programs about what works to improve maternal and newborn health, the MNH Program recommends using the following key strategic approaches in future safe motherhood programming:

1. **Implementing performance and quality improvement** as a systems-based approach to strengthening service delivery. The following elements should be included:

   - Building provider competence through innovative training approaches, including competency-based and humanistic training, and a team approach to training whereby doctors, nurses, and midwives are trained as teams so they understand the role each plays in delivering care;
   - Site assessments and site strengthening using standardized tools based on the level of care and related capacity;
   - A multi-pronged approach to engage a range of stakeholders in identifying weaknesses in facility-based service delivery and outlining solutions to address gaps; and
   - Linking communities and the health service delivery system to ensure that services are culturally appropriate and are meeting the needs and expectations of their most important stakeholders—families and women.

2. Articulating and using **global, evidence-based standards of care** to continually inform all aspects of improved safe motherhood, including the policy environment, training, service delivery strengthening, and behavior change. The international community will need to maintain a commitment to updating current standards based on new evidence so that the materials remain relevant to the field.

3. Building **behavior change interventions** that move beyond messaging to building alliances through the engagement of civil society and linking and mobilizing communities for change.

4. Broadening the use of the **BP/CR Matrix** to facilitate communication among and between stakeholders, to more fully integrate clinical and behavior change programming components, and to further expand the concepts of collective action and shared responsibility. The Program further recommends expanding the framework to include newborn health.

5. Strengthening the enabling environment through **policy dialogue and change** as a critical backdrop or foundation for maternal and newborn health programming and service delivery. Policy dialogue and change must address human resources, financing, logistics, service delivery guidelines, provider guidelines, and so on, and should target the national level as well as the regional and local levels as countries move toward greater decentralization.

6. Empowering **champions for change**, whether they are service providers, community members, parliamentarians, or NGO representatives, to strengthen local expertise and capacity for leadership in improving maternal and newborn health.

7. Developing **regional experts** in clinical care (both normal and emergency care) and in social mobilization to expand this pool of talent as programming for safe motherhood continues to emerge globally, regionally, and at the country level.

8. Updating **preservice education** to ensure that curricula are in line with international evidence-based standards of care and that teaching methodologies build provider competence in essential maternal and newborn care; and engaging policymakers in dialogue for decision-making about human resources issues, such as provider deployment and retention.

9. Expanding **partner collaboration**— many innovative programs currently under way and much remains to be done. Shared learning—through global alliances such as the Healthy Newborn Partnership and the Partnership for Safe Motherhood and Newborn Health—is critical.

Core emphases for future programming should include the following:

- The mother-child dyad
- The continuum of care for women and newborns from the household to the hospital
- Integrated programming and service delivery, particularly around program efforts that tend to be more vertical, such as HIV/AIDS
- Collective action and shared responsibility
- Stakeholder buy-in, including community involvement
- Partner collaboration
- Innovation, flexibility, and responsiveness

The MNH Program has expanded the reach and effectiveness of the safe motherhood movement, leaving in place a legacy of innovative and successful programming built around collective action and shared responsibility. Future maternal and newborn health efforts have much to gain from USAID's past investments. The agenda continues to evolve. The challenge now is to build on the many recent successes and expand the reach of programs to the household and community levels in order to ensure that women and newborns receive the care they need and deserve.

COUNTRY PROGRAM ACHIEVEMENTS AND RESULTS

AFRICA

BURKINA FASO 1999–2004

EXECUTIVE SUMMARY

The MNH/Burkina Faso Program received funding from USAID's West Africa Regional Project (WARP) in 1999. The Program was developed as a pilot project with the expectation that approaches and tools used in one district, Koupéla (population 300,000), would be disseminated to other districts of Burkina Faso and other countries in the region. Efforts began with assisting the Division of Family and Reproductive Health (DSF) to implement its safe motherhood strategy, first by updating new national policies, norms, and protocols (PNP) for reproductive health. The PNP served as the foundation for all Program interventions, which included the following:

- Improving the operational capacity of 11 health centers and two Gold Circle hospitals in the Koupéla district
- Developing training materials and expert trainers
- Training healthcare providers and supervisors
- Increasing community demand for essential maternal and newborn care services

To respond to its regional mandate, the Program coordinated three regional workshops and assisted 11 countries in writing and implementing action plans focusing on maternal and neonatal health and malaria in pregnancy.

The MNH/Burkina Faso model system serves as an example of how international and national partners can work together using minimal resources to achieve significant results in reproductive health at local, national, and regional levels. In May 2004, MNH/Burkina Faso conducted a population-based follow-on survey, which showed impressive results for the Koupéla District. Since the Program conducted the baseline survey in 2001, the percentage of women with four antenatal care visits increased from 21 percent to 44 percent, and the rate of births assisted by a skilled attendant[4] increased from 39 percent to 58 percent. In addition, the percentage of women with a postpartum visit in a health facility no more than 1 week (0–7 days) after birth increased from 39 percent to 59 percent over the life of the Program. These accomplishments were based on fostering key partnerships with the Ministry of Health (MOH) and with the District Health Medical Team (DHMT), as well as working collaboratively with international organizations such as UNICEF and Plan that had complementary activities in the district. The Program also successfully advocated for a high national profile for interventions in maternal and neonatal health by establishing first a district, and then a national, White Ribbon Alliance (WRA) for safe motherhood. At the regional level, the Program worked with national malaria control programs and other interested partners to initiate a West Africa network, RAOPAG, to reduce the burden of malaria in pregnancy. This network has prompted at least six countries to address the problem

[4] Skilled attendant refers to a doctor, nurse, midwife, or auxiliary midwife.

of rising resistance to chloroquine by conducting pilot programs and/or adopting policies to implement intermittent preventive treatment using sulfadoxine-pyrimethamine (IPT/SP).

The MNH Program Legacy

The Burkina/MNH Program has contributed to all aspects of the MNH Program's global legacy.

Establishes and promotes international evidence-based standards for essential maternal and newborn care through global partnerships

The MNH/Burkina Faso Program worked with Burkina Faso's DSF to implement one of the most important parts of its safe motherhood strategy: to assist in the technical review, validation, and promotion at the PNP for essential and emergency obstetric care. In addition to incorporating essential elements into the PNP, such as the WHO-recommended partograph, the Program assisted with the design and development of a pocket guide for district-level healthcare providers that included specific job aids for complex procedures.

Generates shared responsibility and coordinated action among policymakers, health facilities, providers, communities, families and women through Birth Preparedness and Complication Readiness

MNH/Burkina Faso developed a model process for team building that is now being replicated in other districts and is recognized nationally. The Program held quarterly meetings with partners and stakeholders, including participants from Plan Burkina, UNICEF, Family Care International (FCI), UNFPA, L'Association Burkinabè pour le Bien Etre Familial (ABBEF), and Mwangaza Action. Meetings resulted in the provision of essential obstetric supplies and equipment for the Program's 13 health centers and the reorganization of the district's referral and medical evacuation system. In addition, the meetings offered a forum for developing the first WRA Secretariat in Burkina Faso.

Scales up evidence-based safe motherhood practices, tools and approaches by collaborating with global and national partners

Sending two leading obstetrician-gynecologists to participate in the global MNH Program's Regional Expert Development Initiative allowed the MNH/Burkina Faso Program to improve the quality of skilled attendance and build a foundation for scaling up evidence-based safe motherhood practices, tools, and approaches. Under the leadership of these expert trainers, the Program trained 92 healthcare providers and 16 trainers in Burkina Faso. The trainers went on to be invited by organizations such as UNICEF and UNFPA to run performance and quality improvement (PQI) workshops, training sessions, and social mobilization interventions. To date, MNH/Burkina Faso experts have trained participants from 17 countries including 93 healthcare providers and program administrators and 80 communication advisors.

Other efforts contributing to scaling up best practices include MNH/Burkina Faso's close work over the course of the Program with the Centers for Disease Control and Prevention (CDC) and the National Center for Research and Training in Malaria (CNRFP) to assess the burden of disease caused by malaria during pregnancy. After completing a baseline assessment in 2001, the partners implemented and have started to evaluate a pilot intervention to introduce IPT/SP in Koupéla District. The MNH/Burkina Faso Program disseminated study results to 18 countries in

West and Central Africa (WCA). These data, coupled with similar data from Mali and Benin, have prompted wide-scale change in policy for reducing the burden of malaria in pregnancy in WCA. To date, a total of six countries in WCA (Ivory Coast, Ghana, Senegal, Mali, Democratic Republic of Congo, and Gabon) have changed national policy to IPT/SP.

Builds the evidence base for social and behavior change interventions that generate informed demand and collective action for safe motherhood

The MNH Program and the Koupéla DHMT built the capacity of existing health center management committees (CoGes) to act as liaisons between health centers and communities. Since the beginning of the Program, 12 CoGes involved with the Program met 52 times. These CoGes worked with auxiliary midwives, community members, traditional birth attendants, and doctors to strengthen communication systems and to develop emergency evacuation and financing plans for the 13 health centers supported by MNH/Burkina Faso.

The Policy Project is collaborating with the MNH Program to analyze the costs associated with providing maternal and neonatal health services in Burkina Faso. The results of this evaluation will be valuable to the Burkina Faso MOH in terms of learning which services have the greatest impact on maternal mortality and their associated costs.

COUNTRY PROGRAM RESULTS

Justification for Program Presence

The decision to establish the MNH Program in Burkina Faso was multifaceted. First, the health and development indicators are among the worst in the world. Forty-four percent of the population lives in poverty, with 28 percent in extreme poverty. Estimates of maternal mortality range from 484 to 910/100,000 live births (DHS 1998–1999; UNICEF/WHO 1990.) The primary causes of maternal mortality are hemorrhage and infection. The prevalence of low birth weight is 11 to 12 percent. Second, the Burkina Faso MOH demonstrated an interest in working with partners to improve maternal and neonatal survival. In 1999, the DSF had finalized a national safe motherhood strategy and appointed a safe motherhood coordinator. Finally, USAID's Family Health and AIDS Project (FHA) had financial support for increasing accessibility and use of maternal and child health services. After discussions with each partner, USAID/FHA supported the implementation of a model maternal and neonatal health program in one district in Burkina Faso, the approaches and tools of which would be disseminated to other regions of Burkina Faso as well as to other WCA countries.

The choice of Burkina Faso can also be attributed in part to USAID's desire to see effective collaboration among the agencies working in the region and to maximize limited resources. Three key agencies were targeted to work in collaboration with the Ministry of Health and the MNH Program in developing a strategy to improve the outcome of pregnancy for women and their babies, including the following:

- UNICEF, which was active in maternal health interventions in Burkina Faso
- FHA Project, which had selected Burkina Faso as one of its focus countries to increase the use of modern family planning (FP) methods
- Plan Burkina, which was working under a contract with USAID to improve child survival in Koupéla District

Strategic Statement

Regional Strategic Objective: Use of district-level experience to inform the development of maternal and neonatal health services in West and Central Africa

Country Strategic Objective: Increased use of skilled providers during pregnancy, childbirth, and postpartum care in targeted sites in Koupéla District

Intermediate Result 1: Increased partner collaboration to maximize available resources and intended results

Intermediate Result 2: Increased effective advocacy to inform the development of maternal and neonatal health services in Burkina Faso and more broadly in the region

Intermediate Result 3: Increased availability of quality maternal and neonatal health services through a model approach

Intermediate Result 4: Increased demand for quality maternal and neonatal health services

Program Approach

The Burkina Faso MNH Program was based in the Koupéla Health District (population 300,000), situated about 85 miles (140 km) from the capital city of Ouagadougou. The MNH Program worked in 13 of the 26 health areas in the district, with a catchment area of 59 percent of the district's women of reproductive age. The Program was developed on the hypothesis that improved accessibility and quality of maternal and neonatal healthcare services and an increase in informed demand will bring about increased use of these services.

MNH/Burkina Faso was designed to be a comprehensive program involving partner collaboration, advocacy, improved quality of services, and increased informed demand. Activities were implemented at the local, national, and regional levels. At the local or district level, activities involved improving the quality of health services and strengthening the capacity of the DHMT and the CoGes. At the national level, the Program collaborated with the MOH to advocate for updated PNP and increased dissemination of key materials and messages. And at the regional level, efforts focused on building networks to share lessons learned and current research in maternal and neonatal health, as well as using the Koupéla District as a platform to scale up successful maternal and neonatal health practices in West and Central Africa.

Since multiple factors underlie maternal and neonatal mortality, the Program was organized in close collaboration with other organizations to produce maximum results. In addition to the MOH, several other organizations contributed support complementary to that available through the MNH Project in the Koupéla District. The FHA Project strengthened services for family planning and HIV prevention. Plan Burkina worked on child survival activities. UNICEF provided equipment and program support to the regional and district health teams to ensure availability of essential equipment and supplies. UNICEF also supported policy and advocacy efforts and provided financial support for training, development of information, education, and communication messages, and media dissemination. Together, the activities and support provided by each partner addressed infrastructure, training, management, and information needs for improved service quality and increased community utilization.

The MNH/Burkina Faso Program was based on the idea that the first step to effecting change in the way essential obstetric and neonatal care (EONC) services are provided is to update and disseminate PNP for Safe Motherhood. The Program promoted the PNP as a resource for healthcare providers, trainers, and program managers to ensure that there was consistency of information among cadres and across services. To facilitate the use of the PNP, the Program developed a handy pocket guide for the most commonly used procedures.

The MNH Program used the PNP to determine gaps in the provision of health services and developed advocacy strategies to address the gaps. For example, the Program worked with the CDC and CNRFP to provide data to support policy change around the burden of malaria during pregnancy. The PNP also lacked the WHO-approved partograph, so MNH/Burkina Faso worked aggressively with experts to advocate for inclusion of the new partograph in the PNP as well as training in the use of the partograph. Finally, the Program used a strategy to build the capacities of networks and alliances to promote key messages in maternal and neonatal health. MNH/Burkina Faso was essential to the development of RAOPAG and, with the DHMT, founded the WRA for Burkina Faso.

To support PQI in the delivery of essential maternal and neonatal health services, the Program established a model system that incorporated aspects of both clinical care and community participation. The model system was directly linked to the reproductive health strategy developed by the DSF. Through implementing PQI workshops with the DHMT, CoGes, healthcare providers, and community, the Program discovered the need to: improve infection prevention practices, integrate high-quality maternal and neonatal services, improve providers' technical skills, obtain equipment, improve collaboration between community representatives such as the CoGes and healthcare agents, and strengthen the partnership between healthcare providers and traditional birth attendants (TBAs). The model system was used to strengthen the training and supervisory capacity of the DHMT and to help the CoGes and community members develop mechanisms for evacuation and referral of patients during emergencies.

The MNH/Burkina Faso Program used community health agents, CoGes, and the WRA as channels for improving informed demand. To enable communities to identify actions needed to improve maternal and neonatal health, the Program developed an original community mobilization approach (community auto-diagnostic) that made it possible to discuss maternal and neonatal health problems directly with communities. The process taught participants how to identify problems that arise, analyze their cause, and recommend solutions. During the auto-diagnostics, each community developed an action plan that included priorities and ways to measure progress toward improving maternal and neonatal health. Common themes[5] discussed during the auto-diagnostics were how to improve counseling between women and healthcare providers during antenatal care; supporting health education opportunities between community health workers and women and families; and health education between TBAs and women and families. Community health agents used a flipchart and role-plays developed by the MNH/Burkina Faso Program to disseminate health messages. The Program also used media such as the radio (three local stations) to disseminate key messages more widely. The MNH Program also established a White Ribbon Alliance (WRA) in Burkina Faso to increase informed demand. Each year the WRA organizes large-scale community mobilization activities in partnership with

[5] Themes included: importance of ANC; importance of giving birth with a skilled provider; birth preparedness/complication readiness; malaria during pregnancy (IPT/SP, and sleeping under an ITN); HIV testing; knowledge of danger signs; neonatal care; and exclusive breastfeeding.

communities, particularly at the time of the International Women's Day and the African Malaria Day.

Interventions and Results by Intermediate Result

Intermediate Result 1: Increased partner collaboration to maximize available resources and intended results

Collaboration is key to the success of the MNH/Burkina Faso Program. The Program has partnerships with international organizations such as UNICEF, UNFPA, the CDC, the West Africa Health Organization (WAHO), WHO, Pharmacists without Borders, Family Care International (FCI), and Plan Burkina as well as with a number of national organizations such as the DHMT, the DSF, Mwangaza Action, Burkina Family Well-being Association, and Lagem Zoodo Association. The partnerships have generated a variety of regional collaborative activities, including the following:

- Coordinating a regional training course on malaria in pregnancy (MIP) for 27 providers and program managers from seven countries in collaboration with UNICEF. At the end of the course, participants from each country developed an action plan to implement the skills they had acquired.
- Providing technical assistance to UNICEF to follow up on the MIP regional training to train 93 providers and program administrators from 17 WCA countries in focused antenatal care and MIP.
- Providing technical assistance to UNICEF to scale up social mobilization efforts through participation in a regional workshop held in Mauritania for 80 participants from 11 countries.
- Organizing the first meeting of the West Africa RAOPAG network in collaboration with WHO, UNICEF, and the Malaria Action Coalition (MAC). Twenty-six participants from eight countries attended the first annual meeting, and forty-five participants from twelve countries attended the second annual meeting.
- Co-hosting a regional workshop to disseminate best practices in maternal and neonatal health with WAHO. Eighty-four participants attended from eleven countries in West and Central Africa.

The Program also worked closely with the CDC and CNRFP to conduct a rapid assessment in the Koupéla District to measure the burden of disease caused by malaria during pregnancy. The assessment found that in spite of the high levels of reported use of weekly chloroquine chemoprophylaxis, peripheral and placental malaria infection and the associated adverse outcomes of maternal anemia, prematurity, and low birth weight remain very high in the district. Results from the assessment were published in an article by Sirima et al. in the June 2003 edition of the journal *Clinical Infectious Diseases*.

To increase effective advocacy for action to support better maternal and neonatal health outcomes, MNH/Burkina Faso organized national and regional workshops to share results from the assessment. Approximately 65 participants from seven Francophone West and Central African countries attended the regional workshop, and each country outlined national strategies to more effectively combat MIP. During the regional workshop, the Burkina Faso team planned to introduce IPT/SP as an alternative to chloroquine chemoprophylaxis in Koupéla District to

reduce the burden of malaria during pregnancy. MNH/Burkina Faso implemented IPT/SP in Koupéla from February 2003 to May 2004. The CDC, CNRFP, and MNH/Burkina Faso are currently conducting a followup assessment to evaluate whether the introduction of IPT/SP has affected the adverse outcomes of malaria in pregnancy. These program efforts directly support the Roll Back Malaria goal of increasing pregnant women's access to and use of effective measures to prevent and control MIP.

At the district level, MNH/Burkina Faso coordinated quarterly partner meetings to address infrastructure, training, management, and information needs for healthcare providers and community members and to schedule joint action plans. The Tenkodogou health region (in which Koupéla is one district) and the DSF are now using the team-building model set up by the MNH/Burkina Faso Program to coordinate activities at regional and national levels of the health system.

Throughout the life of the Program, MNH/Burkina Faso conducted approximately 95 percent quarterly team-building workshops as planned. The meetings have generated a variety of collaborative activities, including leveraging limited resources. Results include:

- The organization and joint contribution of financing for large (more than 1,000 participants) maternal and neonatal health awareness events on International Women's Day and African Malaria Day.
- UNICEF's installation of a rapid communication system in all 26 district health centers, including the 13 MNH/Burkina Faso project sites. These systems work to improve medical evacuation for obstetric and neonatal emergencies.
- UNICEF's financing for the wide-scale production of MNH/Burkina Faso's social mobilization flipchart and training guide designed to educate community members about all aspects of maternal and neonatal health. UNICEF agreed to finance the production of the flipchart because the partners had aligned their educational goals through joint work planning. As a result, all 26 health centers in the district and every community facilitator—including those employed by Plan Burkina—use the flipchart in daily educational activities.
- UNFPA's adoption and production of the flipchart for its intervention areas in northern and eastern Burkina Faso.
- The excellent collaboration among partners in combating malaria has resulted in the training of more than 1,000 community health workers on the effects of MIP and treatment of simple malaria. Plan Burkina and WHO financed this training.

Intermediate Result 2: Increased effective advocacy to inform the development of maternal and neonatal health services in Burkina Faso and more broadly in the region

Since 1999, the MNH/Burkina Faso Program has worked with the DSF to implement one of the most important parts of its safe motherhood strategy: to assist in the technical review, validation, and promotion of policies, norms, and protocols (PNP) for essential and emergency obstetric care. The MNH/Burkina Faso Program helped the DHMT in Koupéla become the first district to implement the newly revised protocols for essential and emergency obstetric and neonatal care. In this effort, the Program developed national expert trainers; it also discovered and resolved flaws in the PNP. To assist the DSF in disseminating the PNP nationwide, the MNH/Burkina Faso Program contributed the following:

- MNH/Burkina Faso expert trainers developed a national partograph training module with the Network for Prevention of Maternal Mortality. The DSF used the module to train a core group of 20 trainers from each of the 10 regions in Burkina Faso.
- A group of 23 healthcare providers at the national level received a maternal and neonatal health knowledge update using the revised PNP. Participants in the training came from 12 facilities, including medical and midwifery schools, national teaching hospitals, and DHMTs.
- Because the density and length of the five-volume PNP made it difficult for use in daily operations, the MNH/Burkina Faso Program and the FHA Project designed pocket guides for district-level healthcare providers, including specific job aids for complex procedures.

In addition to work on the PNP, the MNH/Burkina Faso Program has worked on a wide range of advocacy efforts that include the following:

- The Program produced and distributed a CD-ROM of 15 documents covering program approaches and tools on how to implement interventions in clinical services, social mobilization, MIP, and monitoring and evaluation. More than 100 stakeholders from 11 countries have received the CD-ROM.
- In collaboration with UNICEF, the Diapaga Health District and the Fada Region have implemented Program approaches including PQI, infection prevention, update and standardization of maternal and neonatal health practices, provision of technical equipment, and social mobilization.
- To assist the FHA Project close out activities and ensure smooth transfer of responsibility to host country nationals, the Program led a training activity on the process of PQI for 26 participants from 5 regions and 15 districts in Burkina Faso.
- In collaboration with Save the Children, expert trainers from the MNH/Burkina Faso Program conducted an MNH update and standardization session in Bobo Dioulasso for 30 Guinean and Malian providers.
- MNH/Burkina Faso staff presented Program results in 15 conferences and workshops over the life of the project.[6] The most significant presentations included one made at a conference coordinated by the CORE Group in Bamako that described the strategies the Program has used in Koupéla to prevent MIP using IPT/SP and insecticide-treated mosquito nets, and one made at the Vision 2010 workshop in Bamako that led to extensive collaboration with UNICEF throughout WCA.
- In collaboration with UNICEF, MNH-trained community health advisors have conducted workshops in Guinea and Benin on the development of communication plans for reduction of maternal and neonatal mortality, based on the social mobilization model developed in Koupéla.
- With support from the NGO Medicos Del Mundo (a Spanish delegation), the Ouagadougou District Sector 30 trained 60 healthcare providers in MNH best practices.

[6] MIM Conference in Arusha; FHA dissemination workshop in Lomé; SAGO in Bamako; MNH regional dissemination workshop in Ouagadougou; FHA STI program dissemination in Douala; World Bank in Washington DC; NGO meeting on malaria in Bamako; Vision 2010 workshop in Bamako, Zambia WRA Advocacy Workshop, 2 technical workshops with Project AWARE; Global Health Council in 2002 and 2004; Social Mobilization workshop in Mauritania.

Intermediate Result 3: Increased availability of quality maternal and neonatal health services through a model approach

The Koupéla model health delivery system incorporates aspects of both clinical care and community participation. MNH/Burkina Faso began program implementation by using the PQI process to identify interventions to improve the supervisory capability of the DHMT, which is the organization that oversees health facilities in rural towns and villages. The Program then repeated the PQI process with healthcare providers, CoGes, and community members. Based on gaps in healthcare service delivery identified by participants, the MNH/Burkina Faso Program provided essential equipment and supplies, transport, and communication systems through partnership with UNICEF and Plan Burkina. In addition, participants identified the needs for additional training in infection prevention, essential and emergency obstetric and neonatal care, MIP, and the prevention of mother-to-child transmission (PMTCT) of HIV.

Over the life of the Program, MNH/Burkina Faso and its collaborators have made great strides in improving both the quality of services and the competency of providers in Koupéla District. A total of 43 providers were updated in knowledge and skills in maternal health, and 48 were updated in infection prevention. An additional 49 providers were trained nationally in maternal and neonatal health skills.

The final supervisory visit to Program sites in Koupéla was conducted in May 2004. Results showed that 86 percent of the providers continue to be competent in maternal and neonatal health skills, including routine use of active management of the third stage of labor and use of the partograph. This success can in part be attributed to regular supervisory and coaching visits provided by the Program and then the DHMT. In March 2001, the Program initiated treatment of obstetric complications at the Koupéla district hospital, based on recommendations from the first PQI workshop. As a result, the rate of cesarean sections has risen from 1 percent in 2001 to 6 percent in 2003, and in the first quarter of 2004 the rate of cesarean sections was 11 percent cesareans.[7]

MNH/Burkina Faso used this solid platform of essential and emergency obstetric care to introduce two complementary services in 2003: IPT/SP and PMTCT of HIV. The following describes results to date:

- Sixteen months after introducing IPT/SP to 26 health centers in the Koupéla District, MNH/Burkina Faso followup data from the MNH Program area show that 84 percent of all women received at least one dose of SP during antenatal care, 29 percent received two doses, and 41 percent received three doses.
- In collaboration with the DSF, UNICEF, and Plan Burkina, the MNH/Burkina Faso Program developed a training curriculum and service guide manual for PMTCT of HIV. Expert MNH trainers trained 32 providers in two hospitals in the Koupéla District, thus offering a comprehensive package of care of mothers with HIV and their babies. Since the PMTCT program began in November 2003, the hospitals have identified five seropositive clients, four of whom received counseling about exclusive breastfeeding and the correct dosage of nevirapine for their babies.

[7] This percentage is the proportion of the number of cesarean sections divided by the expected number of cesarean sections. The expected number of cesarean sections is calculated as 1 percent of expected pregnancies in the population.

In addition to changes in the quality of health services, approximately 58 women in the district have benefited from a 60 percent reduction of their direct financial contribution for obstetric emergency care, such as cesarean section. These results are due to a cost-sharing system established with collaboration between the CoGes, DHMT, community members, and the MNH/Burkina Faso Program partnership. During community meetings, CoGes members stressed the importance of creating community-based funds to help pay for the costs of transport and care in the case of obstetric and surgical emergencies. Families now donate 25 CFA (about US$0.25) for each family member (including children) every year. This fund covers about 60 percent of costs incurred during emergencies, and the family is required to pay the remaining amount. The CoGes is responsible for collecting and distributing the money. Between February and December 2003, 4,981,235 CFA (US$9963) was collected from the DHMT, CoGes, and community members. Of this total, the CoGes used 4,431,180 CFA (US$8862) to purchase surgical kits, post-surgery care, and transport of patients to Koupéla or Ouagadougou.

To improve accessibility to emergency care, UNICEF and the CoGes installed a rapid communication system in each of the 26 health centers in the Koupéla District. As a result, if an emergency occurs at a rural health center, the healthcare providers use a CB-radio to call the Koupéla hospital to send an ambulance. The CB-radios are managed 24 hours a day by health staff and/or guardians. The ambulances also have drivers on call 24 hours a day and can be used to transport women from Koupéla to the Ouagadougou hospital, if necessary.

The MOH annually rates districts on the quality of health services provided at district health centers using criteria such as whether or not medicines are kept stocked, number of supervisory visits conducted, quality of data collected from health centers, etc. This year the Koupéla District was rated first in the Tenkodogo Region, and fifth among the 55 districts in the country.

Intermediate Result 4: Increased demand for quality maternal and neonatal health services

Through its social mobilization component, MNH/Burkina Faso aimed to reinforce the capacity of CoGes in their role as the intermediary between the community and the health centers. The CoGes—trained in the PQI approach by MNH/Burkina Faso—helped the community members to identify gaps in and mechanisms for improving maternal and neonatal healthcare. In collaboration with UNICEF, the CoGes assisted health facilities with the development of evacuation plans for women and newborn babies with complications as well as strategies for communicating with other centers. MNH/Burkina Faso also worked in 180 villages to mobilize local community groups around maternal and neonatal health. These efforts culminated in the establishment of a White Ribbon Alliance in the Koupéla District. The success of the WRA in raising the profile of maternal and neonatal health in Koupéla led the MOH to approve institution of a national WRA secretariat. The WRA in Burkina Faso has won a prize for excellence from the Global Health Council two out of the last 3 years.

Results from the population-based followup survey conducted in February and April 2004 show the extent to which the community efforts increased use of essential and emergency obstetric services. Of women who gave birth in the last 12 months, 44 percent had four antenatal care visits (as opposed to 21 percent in 2001). Of women who gave birth in the last 12 months, 58 percent gave birth with a skilled provider in attendance (as opposed to 39 percent in 2001). These results attest to the relevance and reliability of approaches that have been put in place in the area to improve maternal and neonatal health (quality improvement, community mobilization, partnership).

Table 1. Criteria Met, by Intermediate Results, 2001 and 2004

SO LEVEL		
Criteria	**2001**	**2004**
Skilled attendance at birth	39%	58%
Women with four or more ANC visits	21%	44%
Percentage of women with a postpartum visit in a health facility no more than 1 week (0–7 days) after birth	39%	59%
Percentage of women who are aware that HIV can be transmitted via breastfeeding	73%	88%
IR 1		
Collaborated with 12 international partners and 8 national Burkinabè partners	—	—
IR 2		
Percentage of healthcare providers who performed EMNC services based on revised PNP	0%	100%
Percentage of health facilities in MNH Program area with PNP available	0%	100%
Percentage of pregnant women who received at least one dose of IPT during ANC	N/A	85%
IR 3		
Number of trainers trained in maternal and neonatal health	0	16
Number of supervisors trained in EMNC	0	14
Percentage of health providers who received at least two followup visits from district health management team (DHMT) after completion of MNH training	0%	100%
Percentage of health facilities with EMNC medicine, supplies, and equipment available (by level, according to revised PNP)	0%	100%
Percentage of health facilities with a system of transportation and communication[8] in place	0%	100% (all 26 FS in district)
Percentage of health facilities in MNH Program area maintaining infection prevention practices	0%	100%
Percentage of trained personnel with an acceptable level of competency in maternal and neonatal health skills and infection prevention 3–4 months after training	0%	85%
IR 4		
Percentage of pregnant women with at least three elements of birth preparedness and complication readiness (BP/CR) in place[9]	36%	33%
Percentage of women who discussed their current or most recent pregnancy with spouse	19%	44%
Percentage of health facilities with system of emergency funds in place	0%	100%
Percentage of women with knowledge that malaria during pregnancy causes low birth weight	18%	23%
Percentage of infants aged 0–<6 months who are exclusively breastfed	17%	56%
Activities in community/facility action plans implemented	0%	100%
Activities of CoGes network implemented[10] The activities related to the creation of the cost-sharing funds.	0%	100% (6/6)

[8] Transportation and communication system—working vehicle or other mechanism and communication system to ensure that patients can be transported to other facilities in the case of an emergency.

[9] Elements contributing to BP/CR include: attended at least two ANC visits; planning for skilled attendant during childbirth (in a facility); having a plan for transportation in case of emergency; having a plan for finances in case of emergency; and knowledge of at least two danger signs during pregnancy.

[10] The CoGes Network is composed of at least one member of each of the 13 CoGes.

The key interventions that contributed to these results are:

- MNH-trained healthcare providers conducted monthly discussion sessions with community members on birth preparedness, recognition of danger signs, and how to organize for rapid response to maternal and newborn emergencies. These meetings strengthened the trust community members had for their local healthcare providers.
- Healthcare providers and TBAs held 52 meetings over the life of the project to discuss danger signs, birth preparedness and complication readiness, MIP, and PMTCT of HIV in an effort to improve dialog between the community and facility-based providers.
- MNH/Burkina Faso trained a local theater group in maternal and newborn health messages. The troupe then wrote a play about birth preparedness and complication readiness and gave 20 performances in 80 villages covered by the MNH/Burkina Faso Program. Approximately 10,000 people attended, and other villages are now requesting performances.
- To celebrate International Women's day in 2002, 2003, and 2004, MNH/Burkina Faso and other partners in the WRA held festivals that drew more than 4,000 people. At the awards ceremonies, the WRA gave prizes to 3 of the 25 CoGes in the District for their remarkable work in maternal and neonatal health.
- To celebrate Africa Malaria Day, MNH/Burkina Faso and Plan Burkina collaborated to organize 3 days of events promoting insecticide-treated mosquito nets and IPT/SP for approximately 3,000 community members.
- A network of 13 CoGes was formed, and meetings were held regularly to improve communication between community members and healthcare providers. These meetings provided an opportunity to discuss establishment of facility-based emergency funds for maternal and neonatal health, as well as to raise funds for infection prevention.
- Over the last year, UNICEF, AWARE project, and USAID have invited MNH/Burkina Faso social mobilization experts to share materials and replicate the Program approaches in Haiti, Guinea, and Benin.

Sustainability of MNH/Burkina Faso Program Investment

National Level

MNH/Burkina Faso has taken critical steps to improve maternal and neonatal health in Burkina Faso. Updating national policies, norms, and protocols and developing a pocket guide was a vital and sustainable approach to strengthening service delivery at all levels of the healthcare system. Implementing a model program was important to this process because it provided input to enhance the PNP, such as introducing a standard national partograph. The model program also provided a training site to develop enough trainers to augment implementation of the national safe motherhood strategy.

UNICEF and UNFPA are working with the MOH and MNH/Burkina Faso to expand the model approach nationally. Certain districts and regions have already begun to adopt MNH approaches. For example, the Tenkodogo Health Region (population 1,182,708) has used funding from UNICEF to implement PQI at all of its health centers. UNICEF has also financed Diapaga Health District (population 235,288) to adopt the package of MNH/Burkina Faso approaches, as has FCI in the Wargaye Health District (204,966). Finally, in collaboration with the Belgian aid organization, the Sector 30 Health District in Ouagadougou (population 207,380) is

implementing a program of emergency obstetric and neonatal care using MNH clinical approaches and the system of cost-sharing. The program has also influenced medical and midwifery school curricula, as a number of MNH/Burkina Faso-trained trainers and supervisors were selected from the faculty who are eager to teach new approaches to students.

A national meeting is planned for August 2004 to disseminate tools, approaches, and results of the impact of the MNH/Burkina Faso Program.

Regional Level

By developing expert trainers, MNH/Burkina Faso has put in place a mechanism for wide-scale expansion of program approaches. Expert MNH trainers have introduced program training and service delivery approaches to healthcare providers, community mobilizers, and administrators in 17 countries.

UNICEF is a key partner at the national and regional levels. For example, the Malaria Action Coalition, MNH/Burkina Faso, and UNICEF's Regional Office for West and Central Africa trained key 93 stakeholders from 17 countries in focused antenatal care and malaria during pregnancy. During these training activities, each country developed an action plan that UNICEF is supporting with technical assistance from the MNH/Burkina Faso Program. In addition, the newly formed West Africa Malaria in Pregnancy Network, RAOPAG, will provide an ideal venue to share MNH/Burkina Faso malaria in pregnancy program expertise throughout the sub-region. Finally, during the dissemination workshop for best practices in maternal and neonatal health, WAHO and MNH/Burkina Faso worked with countries to develop comprehensive action plans for maternal health. WAHO helped bring the maternal and neonatal health agenda to the attention of all ECOWAS countries; hence, the MNH/Burkina Faso Program approaches have a mechanism to be disseminated throughout the WCA region.

REGIONAL CENTRE FOR QUALITY OF HEALTH CARE 1998–2004

EXECUTIVE SUMMARY

The goal of the Regional Centre for the Quality of Health Care (RCQHC), based at Makerere University in Uganda, is to provide leadership and build regional support to improve the quality of healthcare in the East and Southern Africa Region (ESA). This work has been facilitated by promoting best practices through networking, strategic partnerships, and education. The MNH Program has worked in close collaboration with the RCQHC's Regional Infectious Disease Advisor, Reproductive Health (RH) Advisor, and Director to improve the quality of maternal and neonatal health systems throughout the ESA region.

The MNH Program has supported the RCQHC efforts to enhance regional capacity to improve health systems. These efforts have contributed to the Centre's level of leadership in the ESA region—specifically, in support of the Roll Back Malaria (RBM) initiative. The MNH Program was instrumental in the development of the Malaria in Pregnancy East and Southern Africa (MIPESA) Coalition and provided technical support to the RCQHC in its role as Secretariat to the MIPESA Coalition. As a partner in the Malaria Action Coalition (MAC), the Program has continued to support regional efforts, which have augmented and supported the RBM initiative. Through the MAC, the MNH Program implemented two regional training efforts targeting advocacy and strengthened training skills for malaria in pregnancy (see section on malaria). The Program played an instrumental role in the development of the sub-regional Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) proposal on behalf of the MIPESA Coalition. The MNH Program also provided technical input for the *Guide for Institutionalization of the Performance Improvement Approach in Improving Quality of Antenatal Care Services.*

The MNH Program Legacy

The MNH Program's collaboration with the RCQHC contributed significantly to the MNH Program's global legacy.

Establishes and promotes international evidence-based standards for essential maternal and newborn care through global partnerships

The MNH Program has contributed to the RBM global initiative by helping to link National Malaria Control Programs and Reproductive Health Programs in MIPESA countries to prevent and control malaria during pregnancy. The Program's technical assistance to the RCQHC has been augmented under the MAC umbrella. The MNH Malaria Resource Package, composed of generic tools aimed at supporting efforts to manage and control malaria during pregnancy, was disseminated to all MIPESA countries and partners. These tools are based on the clinical evidence in the WHO/AFRO publication *A Policy Framework for Malaria Prevention and Control During Pregnancy in the Africa Region*.

COUNTRY PROGRAM RESULTS

Justification for Program Presence

Based at Makerere University in Uganda, the RCQHC was established in 1999 through the support and vision of USAID/REDSO/ESA to become an internationally recognized center of excellence working to advance the quality of healthcare in Africa. The Regional Economic Development Services Office for East and Southern Africa (REDSO/ESA) requested that the MNH Program provide technical assistance to the RCQHC to address the problem of malaria during pregnancy. Earmarked funding for infectious diseases was provided to the MNH Program for this effort. These resources were complemented by core Malaria Action Coalition funds received by the MNH Program from USAID/Washington.

Strategic Statement

MNH/RCQHC established the following strategic objective and intermediate results:

Strategic Objective: Enhanced regional capacity to improve health systems

Intermediate Result 1: Strengthened technical resources available in the ESA region

Intermediate Result 2: Expanded access to critical information and technology concerning malaria during pregnancy

Interventions and Results by Intermediate Result

Intermediate Result 1: Strengthened technical resources available in the ESA region

The RCQHC has been adapting the Performance Improvement Framework Approach for use as a guide for improving antenatal care (ANC) services in Southern Africa. In coordination with the MNH Program, the RCQHC organized a workshop on focused antenatal care (FANC), malaria in pregnancy (MIP), and performance and quality improvement (PQI) for participants from the five MIPESA countries (Kenya, Uganda, Tanzania, Malawi, and Zambia). The MNH Program provided technical guidance and support to develop this guide. The objectives of the workshop were to: 1) orient participants to use the guide; 2) garner feedback on the draft guide for use during its finalization; and 3) develop country action plans for implementing the new guide in countries as a followup to the orientation meeting.

The Centre is waiting on feedback from country representatives before sending the guide for final technical review, after which, it is expected that the guide will be finalized. The MNH Program will provide technical support for the review. Country action plans are in progress, and country feedback is expected in the next quarter.

The MNH Program provided technical support to the RCQHC through the RH Advisor to strengthen this person's efforts to focus on gender equality in program implementation. The RH Advisor attended training at JHPIEGO's headquarters in Baltimore, Maryland. Following this training, the RH Advisor implemented a regional workshop with the goal of developing a

regional gender manual for ESA, and a draft gender manual was developed by multiple Cooperating Agencies with support from USAID.

Intermediate Result 2: Expanded access to critical information and technology concerning malaria during pregnancy

The GFATM third-round proposal, which was developed with technical support from the MNH Program, was not given funding. However, the feedback and official comments from the GFATM review team were encouraging. The proposal was thought to be "innovative and cross-cutting, well-structured and focused, good use range of implementing partners and sizable complementary funding over the life of project." Areas for improvement within the proposal included a) reducing the size of the budget, and b) making management and governance structures strong enough to implement the project. The MNH Program provided technical support to help shape the proposal for round four. This proposal focuses on accelerating the adoption of best practices for the prevention and control of malaria during pregnancy through 1) improved sub-regional capacity for the prevention and control of malaria during pregnancy and 2) increased access to resources for the prevention and control of MIP. The MNH Program wrote the proposal on behalf of the five countries within the MIPESA Coalition. The proposal strengthens country initiatives and will be an added value to the prevention and control of malaria during pregnancy at the country and regional levels.

Sustainability of MNH/RCQHC Program Investment

The RCQHC continues to grow in its role as a leader in the ESA region through developed expertise in malaria during pregnancy and RH, including gender and performance improvement. If the MIPESA Coalition proposal to the GFATM receives funding, activities, such as scale-up of south-to-south exchange, will continue throughout the region. The RCQHC will continue to train providers in focused ANC and MIP using the PQI approach. This approach and training will lend to the sustainability of programs throughout the region as the RCQHC transfers knowledge and tools to participants to identify and resolve challenges that exist within the country context.

TANZANIA 1999–2004

EXECUTIVE SUMMARY

The goal of the MNH Program in Tanzania has been to increase the use of key antenatal care (ANC) interventions to improve neonatal survival. MNH/Tanzania has strengthened national maternal health policy, including focused ANC services targeting intermittent preventive treatment (IPT) of malaria using sulfadoxine-pyrimethamine (SP) and the prevention and treatment of syphilis during pregnancy. MNH/Tanzania has recognized the importance and added value of strengthening ANC services to provide pregnant women with integrated care in the appropriate setting. Because 90 percent of pregnant women in Tanzania already attend ANC visits, the focused ANC initiatives have benefited many mothers and their newborns.

MNH/Tanzania has served as a catalyst in Tanzania, linking the National Malaria Control Program and the Reproductive and Child Health Section (RCHS) within the Ministry of Health (MOH) for better prevention and control of malaria during pregnancy. The MNH Program in Tanzania has expanded its technical support to include not only the public sector but also private sector, faith-based organizations (FBOs) and preservice education. MNH/Tanzania has targeted 12 regions, improving the quality of ANC services available to an area representing roughly 1.7 million women of reproductive age and 326,000 live births per year[11]. The MNH Program's efforts have contributed to the increased uptake in IPT nationally from 29 percent in 2001 to 65 percent in 2003.

Public Sector Achievements

The MNH Program provided technical support to the MOH to develop the following:

- *National Package of Essential Reproductive and Child Health Interventions* (NPERCHI), which outlines the minimum package of reproductive and child health services that should be provided at each level of the service delivery system.
- *Focused Antenatal Care Malaria and Syphilis in Pregnancy, Orientation Package for Service Providers*, including job aids, which is used for the orientation of healthcare providers and supervisors and training of trainers in the public and private sectors. With MNH Program support, the package has been updated to include global, evidence-based standards as outlined in the World Health Organization (WHO)/AFRO publication *A Policy Framework for Malaria Prevention and Control During Pregnancy in the Africa Region.* The package has adapted these WHO guidelines for use in Tanzania.

[11] According to the 2002 census, the total population of the 12 regions is 19,117,543. Assuming roughly 25 percent of the total population are women of reproductive age (a demographic rule of thumb), there are roughly 4,779,386 women of reproductive age in the 12 regions. Assuming that the Program improved services for approximately 35 percent of these women (a programmatic estimate), approximately 1,672,785 women of reproductive age are estimated to be covered by providers and facilities that benefited from direct investment of the program. At Tanzania's general fertility rate of 195 live births per 1,000 women of reproductive age (1999 DHS), there were 326,193 live births estimated in this group of women per year. It is important to emphasize that there are always more pregnancies than live births; therefore, the number of pregnancies covered by improved ANC services would be slightly higher. The general fertility rate is a national measurement and does not account for possible regional variations in fertility.

- *National Guidelines for Screening and Managing Syphilis in Pregnancy*, which outlines international evidence-based standards aimed at ensuring high quality and standardized screening and treatment services for syphilis among pregnant women.
- *National Guidelines on Infection Prevention for Health Care Services in Tanzania*, which will guide health workers to use evidence-based infection prevention practices.

Private (FBO) Sector Achievements

The MNH Program built on the lessons learned from the public sector to strengthen ANC services among three FBOs; namely, the Anglican Church of Tanzania (ACT), the Roman Catholic Church (RC), and the Evangelical Lutheran Church of Tanzania (ELCT).

As a result of the MNH Program's efforts in the public and private sectors, a cadre of experts in focused ANC has been developed:

Table 2. Capacity Building in Focused ANC

	TRAINING/ORIENTATION IN FOCUSED ANC						
	Trainers	**Supervisors**	**Providers**	**CHMT* Members**	**RHMT** Members**	**Preservice**	**Preceptor Sites Developed**
Public	43	52	100	104	11	9 tutors 10 precep. 5 MOH/hq.	6
Private	26	49	94	N/A	N/A	5 tutors 12 precep	3
MOH cascade	91	66	674			180 students	13
Total		167	868	104	11		22

* Council Health Management Team
** Regional Health Management Team

Preservice Education

The MNH Program has provided technical support to six schools to strengthen preservice education in focused ANC with malaria and syphilis during pregnancy. The MNH Program developed classroom-based tutors and clinical preceptors to ensure common linkages between inservice training and preservice education. This included the development of the Learning Resource Package *Antenatal Care of the Pregnant Woman*, Unit 4 of the preservice certificate curriculum for nurses and midwives. This package includes a Reference Manual, Teacher's Guide, and Student's Guide.

The MNH Program Legacy

The work supported by MNH/Tanzania reinforced the concepts outlined in the MNH Program's global legacy statements.

Establishes and promotes international evidence-based standards for essential maternal and newborn care through global partnerships

Under the global Roll Back Malaria (RBM) initiative, WHO/AFRO has set the standard for international best practices for the prevention and control of malaria during pregnancy. The MNH Program has contributed to this agenda with the development of the *Focused Antenatal Care Malaria and Syphilis in Pregnancy, Orientation Package for Service Providers*.

Improves the quality of skilled attendance by implementing international evidence-based standards and guidelines in national policy, curricula and competency-based training

The MNH Program has contributed to improved quality of skilled attendance through its cascade training approach and linkages to preservice education. The Program developed and implemented evidence-based learning materials (*Focused Antenatal Care Malaria and Syphilis in Pregnancy, Orientation Package for Service Providers*), a preservice ANC certificate curriculum for nurses and midwives, and NPERCHI.

Generates shared responsibility and coordinated action among policymakers, health facilities, providers, communities, families and women through Birth Preparedness and Complication Readiness.

MNH/Tanzania has served as a catalyst in linking the National Malaria Control Program and the Reproductive and Child Health Section (RCHS) within the Ministry of Health (MOH) for better prevention and control of malaria during pregnancy. The Program has also link the National AIDS Control Program (NACP) and AMREF for improved screening and treatment of syphilis in pregnancy. In addition, MNH/Tanzania has expanded its technical support beyond the public sector to private sector FBOs and preservice education, contributing to shared responsibility and coordinated action among key stakeholders through efforts to educate women and communities about Birth Preparedness and Complication Readiness.

Scales up evidence-based safe motherhood practices, tools and approaches by collaborating with global and national partners

The MNH Program in Tanzania has scaled up from three regions working with the public sector to 11 regions working with FBOs and preservice schools, all of which are using the orientation package, job aids, and training materials developed. The Focused ANC checklist, an important tool in the competency-based training process, has been adapted by the Zonal Training Centers for followup and support supervision.

COUNTRY PROGRAM RESULTS

Justification for Program Presence

In 2001, a performance facility needs assessment (PFNA) was conducted in Arusha, Manyara, and Iringa regions with support from USAID. Although ANC attendance was high and 70 percent of women came for four visits, most pregnant women did not seek ANC until the second trimester. Results of the PFNA also revealed several gaps in healthcare providers' knowledge of, skills in, and attitudes about ANC. With this in mind and the impact of malaria during pregnancy on maternal and newborn health in these endemic regions, the MOH developed a plan to strengthen the quality of reproductive and child health (RCH) services. This initiative began as the Quality Improvement Recognition Initiative (QIRI), and the MNH Program has been one of four partners since its inception. The partners (JHPIEGO/MNH, IntraHealth, EngenderHealth,

and Johns Hopkins University/Center for Communication Programs) have worked in close collaboration with USAID and the MOH, aiming at synergistic results to improve RCH services. Recognizing the global expertise of the MNH Program in safe motherhood and use of ANC as a platform for integrated maternal and neonatal health services, the Program's focus has been centered on improving service delivery for ANC by targeting malaria and syphilis during pregnancy.

Strategic Statement

MNH/Tanzania established the following strategic objective and intermediate results:

Strategic Objective: Increase the use of key antenatal care interventions to improve neonatal survival.

Intermediate Result 1: Program tools and approaches for maternal and neonatal health services adopted and used

Intermediate Result 2: Improved quality of antenatal care services

Intermediate Result 3: Quality of instruction in maternal and neonatal health improved in selected preservice institutions

Program Approach

Efforts to improve key ANC interventions required continued collaboration and coordination between the MNH Program and its partners, including the MOH, USAID, and other Cooperating Agencies. The MNH Program responded to the needs identified within the MOH to increase ANC interventions and improve newborn survival. Under the QIRI, the Program's targeted 16 districts in the regions of Arusha, Manyara, and Iringa. MNH/Tanzania worked closely with the RCHS, NMCP, and the National AIDS Control Program (NACP) to: a) change maternal and neonatal health policy to reflect international standards, and b) develop a cadre of inservice experts (trainers, supervisors, and providers) in focused ANC. These initial efforts were aimed solely at the public sector and laid the foundation to expand efforts to the private/FBO sector and preservice education. The MNH Program collaborated with the MOH to expanded efforts to a total of 11 regions including the FBO sector and six preservice schools targeting private and public nursing and midwifery schools as well as government Public Health Nurse B schools.

The Program incorporated JHPIEGO's humanistic approach to training, emphasizing protection of clients' rights by having students gain experience with anatomic models before practicing with clients. Learning guides and checklists were used to standardize students' clinical skills as well as to facilitate continual coaching and evaluation of these skills. In addition, activities to strengthen teaching included the promotion of interactive and participatory methodologies including illustrated conferences, small group work, case studies, role-plays, and demonstrations.

MNH/Tanzania used a competency-based approach to strengthen preservice education and clinical training at midwifery and Public Health Nurse B schools and their affiliated training sites. The approach incorporated evidence-based practices based on international consensus documents such as WHO/AFRO's *A Policy Framework for Malaria Prevention and Control During Pregnancy in the Africa Region.*

Interventions and Results by Intermediate Result

Intermediate Result 1: Program tools and approaches for maternal and neonatal health services adopted and used

In collaboration with the MOH, the MNH Program established national standards and policies that provide national guidance on increased antenatal care interventions and improved neonatal survival. With support from the MNH Program, Tanzania changed its national malaria policy in 2001 to include IPT with SP for all pregnant women based on WHO recommendations.

MNH/Tanzania supported the development of appropriate policy tools and documents and approaches for improving quality of ANC services, as well as adoption of new skills by healthcare providers. Developing evidence-based training materials was an important component of the MNH Program that contributed to improved services. The Program developed tools and approaches that were used and/or adapted to orient healthcare providers and supervisors and train trainers in an effort to build capacity to deliver high-quality ANC services throughout the country.

The MNH Program worked closely with the RCHS to develop the NPERCHI, which outlines the interventions to be implemented and actions to be performed at the community, dispensary, health center, and hospital levels. The NPERCHI is targeted at supervisors, Regional and Council Health Management Teams, and government officials to ensure the minimal level of RCH services at all healthcare levels. The MNH Program disseminated these interventions to about 50 districts in 11 regions. The RCHS was tasked with national dissemination.

With the NPERCHI in place and the national malaria policy changed, the MNH Program developed *Focused Antenatal Care Malaria and Syphilis in Pregnancy, Orientation Package for Service Providers*. This orientation package was developed based on *Kenya's Focused ANC and Malaria in Pregnancy* orientation package and uses the platform of ANC to ensure integrated, high-quality services. The goal of the package, which is based on WHO recommendations, is to strengthen ANC services for pregnant women in an effort to ensure better outcomes for women and their babies. The MOH has officially adopted this orientation package at the national level resulting in standardized training throughout Tanzania.

The MNH Program collaborated with the African Medical and Research Foundation (AMREF), NACP, and RCHS to develop the first *National Guidelines for Screening and Treatment of Syphilis in Pregnancy*. The guidelines are intended to provide direction to planners, supervisors, and healthcare providers who are responsible for the provision of syphilis screening and treatment to pregnant women. The guidelines will help to strengthen the platform of focused ANC in Tanzania as providers are kept abreast of the most up-to-date information on syphilis during pregnancy.

Building on JHPIEGO's Training in Reproductive Health Project's regional efforts to improve infection prevention practices in the healthcare setting, the MNH Program supported the Quality Assurance Unit of the MOH in the development of the *National Guidelines for Infection Prevention*. These guidelines are aimed at healthcare workers and outline the international standards and procedures for ensuring client and provider safety through proper infection prevention practices in hospitals and healthcare facilities. The Tanzania guidelines are based on JHPIEGO's *Infection Prevention: Guidelines for Healthcare Facilities with Limited Resources*

and the WHO manual *Infection Prevention and Control Policies and Guidelines*. Use of these guidelines to increase safety throughout the healthcare system is especially crucial given the current HIV/AIDS and TB epidemics in the region.

Intermediate Result 2: Improved quality of antenatal care services

The MNH Program worked closely with the RCHS in the QIRI regions to improve service delivery that included focused ANC, targeting malaria and syphilis during pregnancy in an integrated manner. The MNH Program also integrated orientation to principles of infection prevention as well as prevention of mother-to-child transmission (PMTCT) of HIV services. Using a Performance and Quality Improvement (PQI) approach, MNH/Tanzania included training of trainers and orienting of healthcare providers and supervisors to work toward sustainable services. A cadre of 43 public-sector and 26 private-sector trainers was developed. These trainers went on to provide orientation to focused ANC, targeting malaria and syphilis during pregnancy to 101 supervisors (52 public-sector and 49 private-sector) and 194 healthcare providers (100 public-sector and 94 private-sector). The MNH Program strengthened these efforts and built the capacity of the Zonal Training Centers (Centre For Educational Development In Health- Arusha [CEDHA] and the Primary Health Care Institute-Iringa), which resulted in the development of 13 practicum sites that have the capacity to orient new providers.

Building on the MNH Program's efforts, the NMCP, in conjunction with the RCHS, used the *Focused Antenatal Care Malaria and Syphilis in Pregnancy, Orientation Package for Service Providers* and job aids to scale up training to 18 additional regions in Tanzania. The two Zonal Training Centers also cascaded the training to the district level in the three original regions of Iringa, Manyara, and Arusha. As a result, an additional 91 trainers and 66 supervisors were oriented to focused ANC, targeting malaria and syphilis during pregnancy, resulting in an additional 674 healthcare providers oriented. These efforts also contributed to the development of 104 Council Health Management Team members and 11 Regional Health Management Team members' knowledge and appropriate information that will guide in decision-making during planning and implementing RCH services in their districts. **Table 2** summarizes these results.

Building on efforts in the public sector, USAID, RCHS, NMCP, and the MNH Program recognized the importance of rapidly scaling up efforts in the private/FBO sector and through preservice education. In order to achieve optimal results and sustainable services, the Program drew on synergies among the three sectors (public, private/FBO, and preservice education) to improve ANC and newborn survival. As efforts to strengthen ANC interventions in the private/FBO sector were underway, the RCHS was no longer being funded under USAID. This proved to be a challenge for ongoing implementation efforts as the RCHS was unable to readily participate in joint programming efforts. With this in mind, the Program approach in the private/FBO sector mirrored efforts in the public sector and built on lessons learned and best practices, while expanding to an additional eight regions. This resulted in expanded coverage for pregnant women because FBOs provide about 40 percent of healthcare in Tanzania, and pregnant women use these private services.

Recognizing the link between training and supervisory followup, the MNH Program trained supervisors in both the public and private sectors to ensure that providers received the mentorship they needed to provide clients quality services. The supervision course integrated a PQI approach, resulting in better supervision techniques and tools to assist supervisors when

supervising others. Supervision training for focused ANC included helping providers to address issues that have been found to hinder the achievement of high-quality integrated services.

A followup survey of FBO facilities recently documented that orientation participants have made substantial changes in service provision since completing the course; however, because the followup survey was qualitative in methodology, there are no data to present. Evidence collected during interviews with providers and supervisors indicates that the most extensive changes in facilities after the orientation were made in the area of infection prevention. One of the providers said: *"Infection prevention nowadays is being done by everyone working at RCH clinic. They care a lot on infection prevention (wanajali sana mambo ya infection prevention) here at RCH, staff from maternity ward and all departments in the hospital*." These accomplishments come in spite of the fact that facilities needed to spend their own resources to buy additional bleach, gloves, and disposable towels, and set aside time to conduct on-the-job training of healthcare providers who did not attend the orientation. Changing to a four-visit schedule for ANC decreased the client load and enabled healthcare providers to give better counseling and spend more time with each client. During this counseling, providers are able to tailor information to each woman's needs, and counsel her on birth preparedness, danger signs, and other important issues. One provider interviewed said: *"There is more time for counseling as the clients are few. Health education was given to clients before the training [all at once], now we give each woman counseling according to her problems."*

Although many places provided SP prior to the training, in a few places directly observed therapy (DOT) became routine after the training where it was not before. Responses indicate that syphilis screening is more routine after the training, and treatment of partners more common. A provider said: *"It was not routine to do RPR before, but now it is routine for every antenatal woman to have an RPR test done."*

Challenges to making further improvements to services focus on performing laboratory tests and providing medications not currently provided to the facilities by the government free of charge. Some facilities have to charge clients for SP, mebendezole, and hemoglobin and syphilis tests. If the client cannot pay, she does not receive the service. Many facilities are now in the process of negotiating to receive some of these drugs and supplies from their District Medical Officer. Most of the facilities conduct these tests in the laboratory where there are long queues, rather than in the maternal and child health clinic. In addition, some facilities still do not offer ANC every weekday. Facility administrators must make a policy change to amend this access problem.

According to the Tanzania National Malaria Control Program, IPT coverage increased from 29 percent in 2001 to 65 percent in 2003. The NMCP attributes this increase in coverage to multiple influences including: a) the development of the National ANC guidelines, and b) the focused ANC package used for inservice training. The MNH Program collaborated closely with the MOH, offering technical assistance to develop and finalize the guidelines and develop, finalize, and implement the orientation package currently used nationally.

Intermediate Result 3: Quality of instruction in maternal and neonatal health improved in selected preservice institutions

The MNH Program worked in close collaboration with the Human Resources Development Division (HRDD) of the MOH to strengthen preservice education targeting focused ANC with malaria and syphilis during pregnancy in six public and private nursing and midwifery schools,

including Public Nurse B Schools. Recognizing the links between preservice education and inservice training, these efforts served to solidify and further strengthen efforts already underway in the public and private/FBO sectors. Ultimately, this initiative has paved the way for new providers to graduate with the necessary knowledge and skills to provide high-quality focused ANC services. This will reduce the need for continuous inservice training and allow the MOH to concentrate on refresher trainings and updates for providers and trainers. The accomplishments made under this initiative are important and especially noteworthy considering that the Program had only 1 year for implementation. Although the timing was a challenge, the Program was able to achieve its goals as outlined in the beginning of the year.

The MNH Program efforts to strengthen preservice education have laid a solid foundation to continue to support and strengthen preservice education throughout the country. Instrumental to the success of this effort was the establishment of a core team that was charged with monitoring the improvements in strengthening preservice education. While the MNH Program led the technical support efforts, this core team guided the process based on their expertise and knowledge of the schools in Tanzania. The core team comprised the HRDD, Nursing Council of Tanzania, Nursing Registrar, RCHS, and school representatives.

MNH/Tanzania established a core team of tutors and preceptors with the knowledge and skills to update and design curricula. This was a timely effort because as the MNH Program efforts were underway, Tanzania was revising its nursing curriculum. As one component of the curriculum, focused ANC revisions were adapted to the national curriculum in the Learning Resource Package *Unit 4: Antenatal Care of the Pregnant Woman of the Tanzania* as part of the preservice certificate curriculum for nurses and midwives. This package was pretested at all six schools and has been adopted by the Nursing Council for national use.

The MNH Program strengthened the knowledge and skills of 14 tutors and 22 preceptors in focused ANC targeting malaria and syphilis during pregnancy. This was instrumental in the improvement of instruction, as most tutors and preceptors had had no technical updates since they started teaching. Teaching skills were also improved by focusing on a competency-based approach. Five senior administrators at the MOH headquarters responsible for preservice education in Tanzania were also oriented to focused ANC. This training is important for national decision-making and planning for reproductive health training in preservice education.

The MNH Program also upgraded teaching and preceptor sites, which improved the tutors' and preceptors' capacity to transfer the correct knowledge and skills to their students. Twenty-two practicum sites were strengthened in both public and private facilities. The site upgrade included reorganization of the ANC clinic for good client flow and confidentiality as well as for syphilis screening. MNH/Tanzania also helped facilities with limited supplies implement IP practices.

Sustainability of MNH/Tanzania Program Investment

The MNH Program in Tanzania has been integrated and implemented through the existing healthcare system from its inception. As a result, systems and services have been strengthened within a sustainable system. Within the public sector, the MNH Program has helped to lay a solid foundation with key policy documents including NPERCHI, *National Guidelines for Screening and Managing Syphilis and Pregnancy*, and the *National Guidelines on Infection Prevention for Healthcare Services in Tanzania*. Once these policy documents were in place, the MNH Program helped support Tanzania to move from policy to implementation by focusing on the development

of a cadre of trainers who could train providers in focused ANC integrating malaria during pregnancy and syphilis during pregnancy. These efforts were augmented further with the development of Zonal Training Center trainers. The MNH Program will continue to scale up these efforts; working at the regional level with Zonal Training Centers to cascade the training to the district level with providers. These initiatives are augmented further with the development of the Learning Resource Package *Unit 4: Antenatal Care of the Pregnant Woman of the Tanzania*, part of the preservice certificate curriculum for nurses and midwives. This package serves as the national focused ANC unit for all nursing and midwifery schools.

The MNH Program's efforts in Tanzania have contributed to increased use of key ANC interventions to improve newborn survival as a result of its key approaches and integrated Program elements. The MNH Program has contributed to strengthened human capacity to implement and supervise core focused ANC services in 11 regions. The Program has also laid a solid foundation for preservice efforts to expand rapidly. Although results are noteworthy and knowledge and skills have improved among trainers, supervisors, and providers, expansion will require continued technical support to ensure that comprehensive efforts are sustained.

ZAMBIA 1998–2004

EXECUTIVE SUMMARY

The statistics in Zambia tell a story of need: more than 70 percent of Zambians live below the poverty line; 25 percent of children under five are malnourished and 59 percent have stunted growth; and 14 percent of 15- to 24-year-olds are infected with HIV. According to the World Bank, life expectancy stands at 37 years of age. Zambia has high infant mortality rates and one of the highest maternal mortality rates. The recent Demographic and Health Survey (2001–2002) places the maternal mortality ratio at 729 deaths/100,000 live births, with a total fertility rate of 5.9; this rate translates into a lifetime risk of 1 in 20 Zambian women who will die of pregnancy-related causes.

Numerous factors contribute to the high maternal mortality in Zambia. One of the most fundamental underlying factors is the overall economic situation of the country and population, which affects the ability of the government to support and provide high-quality health services, as well as the ability of the population to access and utilize those services. Forced with decisions on the use of limited financial resources, families may have to choose, for example, between food and healthcare, while health managers may have to choose between buying antibiotics and gloves.

Compounding these factors, sexual relations and childbearing begin early in Zambia, increasing the risk of complications during pregnancy. Almost one-quarter of adolescent girls (according to the 2003 Sexual Behavior Survey) have had a baby or are pregnant. Approximately one in eight adolescents has had sex by age 15, and more than 50 percent have had sex by the age of 17. One result of this situation is that 20 percent of the clients seeking postabortion care (PAC) are adolescents.

More than 90 percent of women attend antenatal care services, and 72 percent made four or more visits. However, only 43 percent of births occur in a healthcare facility, and many of these facilities do not have properly trained staff and/or the equipment and supplies needed to manage complications (see **Appendix 1**, Maternal Death Case Study, page 72). More than half of all births in Zambia take place outside of healthcare facilities, and the home birth rate in rural areas is closer to 70 percent. The vast majority of those who give birth at home are assisted by relatives or family members.

In the face of these daunting statistics, the aim of the MNH Program in Zambia has been to improve pregnancy outcomes for women and newborns by increasing access to and use of skilled providers at birth. The Program has done the following to achieve this goal:

- Building the capacity of human resources for health by:
  - Strengthening preservice education;
  - Implementing focused service delivery programs; and
  - Providing technical assistance to national and local inservice training programs.
- Working with local counterparts to reach out to and mobilize communities

- Advocating for and fostering the support of national policymakers and key stakeholders for the development, adoption, and effective implementation of national reproductive health (RH) strategies, standards, and guidelines.

Although some obstacles—such as the country's poor economic situation and human resource development issues affecting health workforce development, deployment, and retention—require longer term multisectoral solutions, MNH/Zambia has established a strong foundation for improved maternal healthcare in Zambia over the past 4 years and directly improved the lives of many women and families (see **Appendix 2**: Selected Success Stories, page 74).

Advocacy, behavior change communication, and social mobilization activities led by MNH/Zambia have greatly contributed to the increased recognition of RH, and especially maternal mortality, by policymakers, health managers, local INGOs and NGOs, and Zambian citizens. Specific messages targeting maternal health and mortality have been selected above others as themes for national events such as World Population Day, International Women's Day, and International Nurses' Week. Influential donors such as the WHO, UNICEF, and UNFPA have increased the visibility of and support for maternal health activities in their programs. In addition, Parliament and the Central Board of Health (CBOH)/Ministry of Health (MOH) have increased the attention paid to RH and maternal mortality, as well as increased the resources to coordinate and implement these activities.

Through MNH/Zambia's work strengthening preservice education for midwives, not only has the ability to produce skilled midwives increased, but the Program has helped to strengthen preservice education for other cadres including general nurses, doctors, and medical licentiates. Owing to the focus of the preservice program on practical skills and clinical practicum sites, MNH/Zambia also strengthened overall essential maternal and neonatal care (EMNC) practices in 23 facilities in eight districts, and to date, more than 165 students have graduated from the strengthened midwifery programs and been posted at more than half of the districts in Zambia.

Through a combination of advocacy and taking advantage of opportunities to leverage the Program's initial preservice work, MNH/Zambia has made significant contributions in strengthening national RH policy and guidelines and bringing them up-to-date with international standards for evidence-based medicine. The only existing national clinical guidelines in the country, the *Integrated Technical Guidelines for Front Line Health Workers* (ITG), was updated in 2002. The safe motherhood chapter was rewritten under MNH Program leadership to conform to international standards such as the WHO's volume *Managing Complications in Pregnancy and Childbirth*, part of the Integrated Management of Pregnancy and Childbirth series. The curriculum and the ITG both incorporate international best practices such as focused antenatal care, counseling and testing for HIV, intermittent preventive therapy for malaria, use of the partograph, appropriate use of episiotomy, avoidance of artificial rupture of membranes, active management of the third stage of labor (AMTSL), PAC using manual vacuum aspiration (MVA), immediate care of the newborn, and postnatal vitamin A supplementation. With the recent update of the *Standard Treatment Guidelines*, *Essential Medicines List*, and *Essential Laboratory Supplies List for Zambia* (2004) by the National Formulary Committee, these same practices and concepts have again been reinforced.

To supplement and facilitate the implementation of these foundational activities, MNH/Zambia has also supported targeted programs to rapidly scale up certain best practices. Several of these have focused on three of the leading causes of maternal mortality: postpartum hemorrhage

(PPH), sepsis, and complications of abortion. Leveraging the work of JHPIEGO under the Training in Reproductive Health (TRH) Project, and with support from USAID's bilateral Zambia Integrated Health Program (ZIHP), MNH/Zambia supported work in PAC and infection prevention (IP), helping to develop national service delivery and training capacity in these areas. Working under the PPH Initiative from USAID/Washington, MNH/Zambia was also able to support the implementation of AMTSL in four districts, ensuring the application of the contents in the ITG.

Additional interventions have supported the scale-up and implementation of evidence-based practices, which, when integrated into maternal care, primarily benefit newborns. These practices include prevention and treatment of malaria in pregnancy (MIP) and prevention of mother-to-child transmission of HIV (PMTCT). MNH has led the national dissemination and implementation of MIP guidelines. These guidelines promote the use of insecticide-treated nets (ITNs), intermittent presumptive treatment (IPT) of all pregnant women, improved prevention and clinical management of anemia, and improved case management of symptomatic malaria in pregnant women. The MNH Program, in collaboration with the TRH Project and other USAID-funded partners such as Linkages and the Elizabeth Glaser Pediatric AIDS Foundation (EGPAF), has helped the CBOH to develop a standardized national training package to scale up PMTCT services nationally. This package integrates relevant best practices in antenatal, intrapartum, and postnatal care, and is supported with a Maternity Counseling Kit (MCK)—also spearheaded by MNH/Zambia—as one of the key job aids to improve the quality and consistency of antenatal counseling.

Although there is still much to be done in Zambia, managers, healthcare providers, clients, and communities have greatly benefited from MNH/Zambia's leadership and interventions. Because MNH/Zambia worked through and in close collaboration with established national organizations and bodies, the work of the MNH Program is poised to continue in the years to come.

Country Program Results

Justification for Program Presence

When the MNH Program first began to work in Zambia, many evidence-based best practices in maternal and neonatal care had not been implemented in Zambia. Preventive practices, such as birth planning, providing IPT for malaria to all pregnant women, and effective IP practices, were not in place. In addition, critical emergency services were inadequate, and—even at major health facilities—women did not always receive adequate care in the event of a complication. This is due in part to insufficient funding of the healthcare system, leading to inadequacies in infrastructure, equipment, supplies, drugs, and human resources, as well as the lack of adequate training and preparation for staff.

At the outset of the MNH Program in Zambia in 1999, the USAID/Zambia Mission asked the MNH Program to provide focused technical assistance in the area of maternal and neonatal health in Zambia. An initial gap was identified: assisting the General Nursing Council (GNC) of Zambia to strengthen midwifery education. To support the preservice training interventions and to increase the impact of Program interventions, additional needs were identified. These initially focused on supporting the development of national EMNC clinical guidelines and providing focused MNH technical assistance to behavior change intervention (BCI) activities to support maternal and neonatal healthcare. They eventually expanded to specific initiatives that supported

the strengthening of service delivery in key MNH technical areas and assisted in the rapid implementation and scale-up of best practices accepted in curricular documents and guidelines.

These activities also complemented and were closely linked with JHPIEGO's TRH Project to support the expansion of PAC services and improve IP practices to strengthen essential obstetric care in Zambia. Based on a PAC needs assessment carried out in 1997, which identified a lack of comprehensive, high-quality PAC services in the country, JHPIEGO developed a strategy with the Central Board of Health (CBOH) and University Teaching Hospital (UTH) to develop PAC training capacity in Zambia. A National PAC Task Force was established, and activities included the establishment of model training sites and training capacity at the three national referral hospitals.

From its inception, the MNH Program in Zambia was designed to complement and enhance established programs and partners in Zambia. The strategy employed was, to the extent possible, to work through existing partners on the ground. This helped to build ownership of key programs and capacity to implement critical interventions while ensuring an increased likelihood for sustainability. In addition to the support provided directly to the MOH, CBOH, and other government bodies (e.g., GNC, midwifery schools, National Malaria Control Center, UTH), MNH/Zambia supported other USAID partners and other donor programs. MNH worked closely with the USAID bilateral technical assistance program, ZIHP, and other USAID-funded partners, such as Boston University's ARCH program, AED's Linkages Program, the University of Alabama at Birmingham, and the EGPAF Call-to-Action Program. MNH/Zambia also worked closely with GTZ, UNFPA, UNICEF, and WHO to support specific components of their reproductive and maternal health programs. Through its support for the Zambia White Ribbon Alliance for Safe Motherhood (ZWRASM), the MNH Program also provided support and leadership to a network of INGOs, NGOs, and community-based organizations (CBOs) active in promoting and implementing safe motherhood activities in Zambia.

Strategic Statement

The MNH Program in Zambia defined its Strategic Objective and Intermediate Results as follows:

Strategic Objective: Increase the use of skilled attendants during birth

Intermediate Result 1: Improved essential maternal and neonatal care

Intermediate Result 2: Increased demand for quality maternal and neonatal services

Intermediate Result 3: Improved policy environment for essential maternal and neonatal survival

Intermediate Result 4: Increased collaboration among organizations promoting maternal and neonatal care

Program Approach

The MNH Program in Zambia has been coordinated through the JHPIEGO/Zambia office in Lusaka, the capital of Zambia, working in collaboration with and through a variety of incountry

partners including the Johns Hopkins University/Center for Communication Programs (JHU/CCP) Zambia office, GNC, UTH Department of Obstetrics and Gynecology/National PAC Task Force, and the NGO Coordinating Committee. All MNH/Zambia activities were developed and carried out in close coordination with the MOH and CBOH, helping to shape and support their priority program areas. This work has been implemented throughout the country, supporting national efforts that reach all nine provinces and 72 districts.

The MNH Program in Zambia approached the improvement of maternal and neonatal health through the following three major categories of interventions:

- Strengthened service delivery
- BCI
- Policy and advocacy development

Recognizing that preservice education is a key to sustainable, long-term service delivery improvements, MNH/Zambia placed a major emphasis on strengthening both the registered midwifery (RM) and enrolled midwifery (EM) training programs. The MNH Program worked to incorporate evidence-based best practices such as PAC, AMTSL, MIP, and PMTCT while addressing inservice needs in key areas of essential obstetric care service delivery.

Having begun by updating and strengthening midwifery education, MNH/Zambia capitalized on numerous opportunities to strengthen (or develop) and effectively disseminate clinical guidelines that incorporated best practices in maternal and neonatal health. Examples include the following:

- Leading a complete revision of the safe motherhood chapter in *Integrated Technical Guidelines for Front Line Health Workers*
- Developing and disseminating MIP and IP guidelines
- Developing the MCK to standardize and strengthen focused antenatal care
- Supporting the implementation of components of these revised guidelines such as AMTSL and PMTCT

In recognition of the social, economic, and practical barriers to accessing the services that the MNH Program was strengthening, MNH/Zambia also supported behavior change, policy, and advocacy interventions. Over the life of the program, MNH Program team members have provided significant support to the CBOH, the Reproductive Health Subcommittee, the National Malaria Control Center (NMCC), and other cooperating partners such as the USAID bilateral ZIHP, GTZ, Development Cooperation Ireland, UNFPA, UNICEF, and WHO. The MNH Program has played a pivotal role in a variety of key initiatives and bodies, including the following:

- Appointed chair of the MIP working group under the NMCC
- Founding member of the IP working group of the CBOH
- Member of the Safe Motherhood Task Group
- Member of the Safe Motherhood Clinical Guidelines development committee
- Member of the Maternal Death Review consultative group
- Member of the National PAC Task Force
- Member of the Reproductive Health Subcommittee
- Elected chair and vice chair of the ZWRASM

In addition to this technical support and advocacy, the MNH Program implemented social mobilization and advocacy activities. This work was carried out through supporting new and improved content in established national mass media and distance education programs, as well as through the formation of a grassroots NGO network for safe motherhood. Applying this strategy, MNH/Zambia effectively advocated for an increased focus on maternal and neonatal health at the national level and for increased and improved social mobilization for maternal health by the NGO members of the ZWRASM. Although there were specific segments of the BCI program that targeted important topics such as MIP and PMTCT, the overarching theme of the MNH Program's BCI strategy was birth preparedness and complication readiness (BP/CR). Themes for several national campaigns revolved around messages such as "Make pregnancy safer . . . be prepared, plan ahead," and "Every pregnancy is a risk . . . make it safe, plan ahead."

World Population Day, July 2001

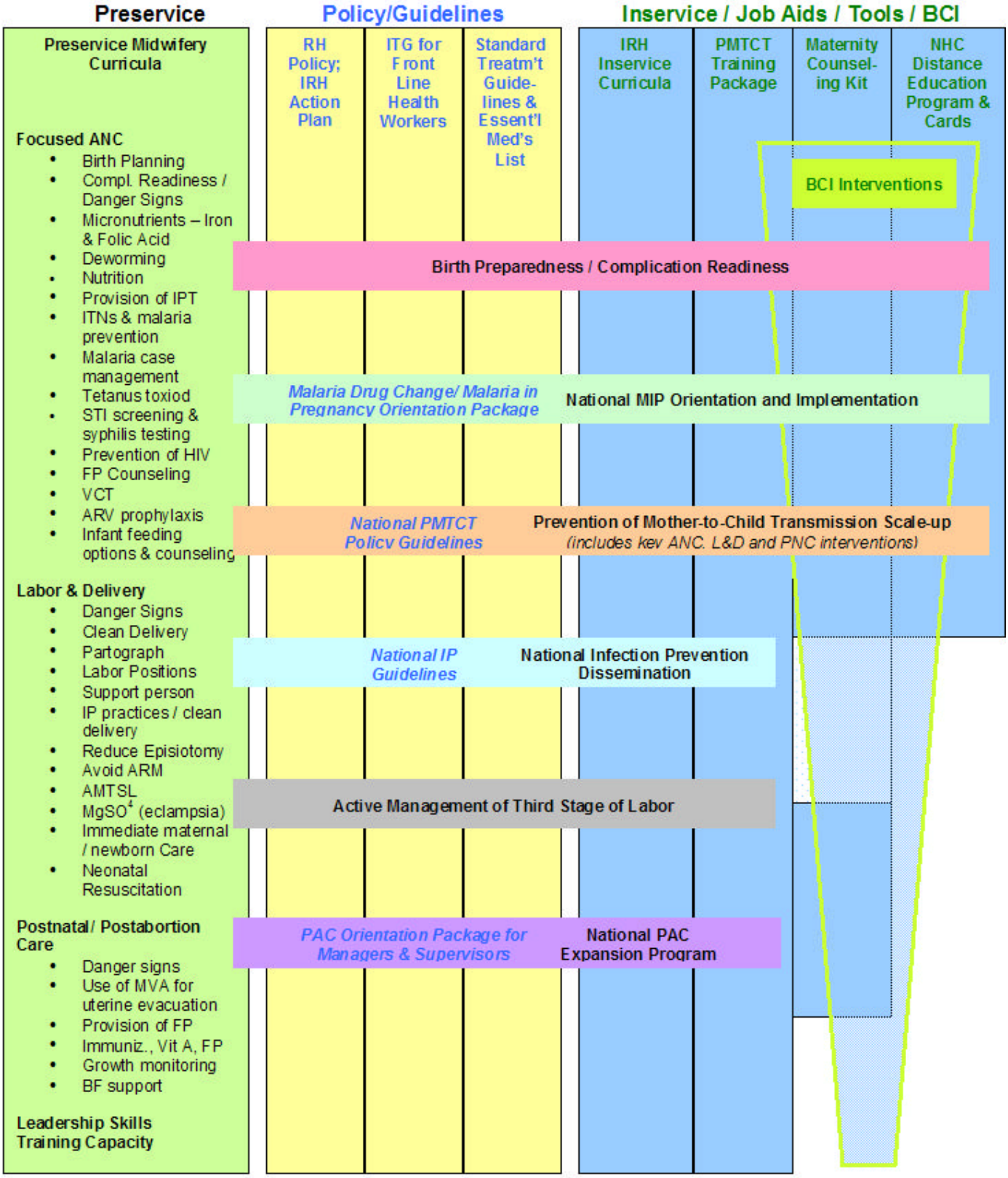
Mother's Day, May 2002

Member of Parliament, Mother's Day 2002

Pinning the Minister of Health, March 2001

The interrelated nature of the MNH interventions is represented in **Figure 8** on the following page. Broad EMNC interventions were the basis of the cross-cutting service delivery and policy elements of the Program, such as the strengthening of preservice midwifery education, inservice RH training, and policy documents (e.g., ITG National Formulary). Specific interventions such as BP/CR, MIP, PAC, AMTSL, IP, and PMTCT expanded upon what was integrated and rooted in these broad, cross-cutting interventions, to provide additional support to the rapid scale-up and effective implementation of these practices.

Figure 8. Integration and Interrelationship of MNH/Zambia Interventions



Interventions and Results by Intermediate Result

Intermediate Result 1: Improved essential maternal and neonatal care

MNH/Zambia has improved essential maternal and neonatal care through broad-based initiatives, strengthening of midwifery education, and updating of overall safe motherhood clinical guidelines. The Program also carried out focused interventions targeting specific practices such as antenatal counseling, MIP, IP, AMTSL, PAC, and PMTCT.

MNH/Zambia and the GNC strengthened preservice midwifery education at all RM and EM schools in both classroom and clinical arenas, revising the curricula, developing competency-based teaching materials, and strengthening clinical practice at sites where students learn and practice their skills. An evaluation of the strengthened RM program, conducted in 2003, provides evidence that the graduates are able to perform the expected skills that were included in the new curriculum.

Summary of Registered Midwifery Evaluation Findings

All midwives graduating from any of the three RM schools after the curriculum was strengthened, but more than 6 months prior to data collection, were included as potential participants in the evaluation. Clinical experts assessed the clinical skills of 51 graduates in each of seven clinical skills sets: antenatal care, labor and childbirth, newborn resuscitation, bimanual compression of the uterus, manual removal of the placenta, use of the partograph, and management of PPH. Research assistants completed knowledge assessments and conducted interviews with the graduates, as well as interviews with the graduates' supervisors and peers.

Knowledge and skills performance was high in most areas, with an average overall knowledge score of 71 percent and an average overall clinical skills score of 83 percent. In addition, IP practices were high (84 percent) as were client-centered skills scores (86 percent). Performance by graduates of the Lusaka School of Midwifery was somewhat higher overall than other graduates. Supervisors and peers judged the graduates as more skillful in both clinical and non-clinical areas (e.g., decision-making, leadership, teamwork, advocacy) than graduates trained under the previous program, and they reported that the new graduates shared their new knowledge with colleagues and had improved the clinics (e.g., patient care, staff advocacy, resources, leadership).

The work on the midwifery curriculum provided a foundation for other MNH Program initiatives, as it incorporated many practices that MNH/Zambia also supported through targeted service delivery strengthening programs, such as PAC, AMTSL, MIP, IP, and PMTCT. The clinical content of the midwifery curriculum also informed the revision of national clinical protocols for safe motherhood, and the clinicians trained within the Program became advocates for these practices. In addition, the collaborative nature of the work helped to build the capacity of the GNC, which adopted key aspects of the curriculum strengthening process (as well as the materials that were developed) to apply in the parallel curriculum strengthening of the Registered and Enrolled Nursing programs supported by the ZIHP.

In addition to strengthening preservice education and developing national clinical guidelines incorporating evidence-based best practices, MNH/Zambia supported specific interventions to assist the CBOH in implementing the following:

- AMTSL to prevent PPH
- PAC to prevent deaths due to complications of miscarriage and abortion (and to prevent repeat abortions)
- IP to reduce sepsis

These practices directly address three of the leading causes of maternal mortality—PPH, sepsis, and complications of abortion. Prior to the launch of the MNH Program in Zambia, JHPIEGO had been supporting both PAC and IP under the TRH Project. The MNH Program became an active partner in these activities, incorporating them into curricula and guidelines. When the TRH Project ended, MNH/Zambia assumed the leadership role to support the completion of national activities to ensure that these services were well established throughout the country. MNH/Zambia also supported an initiative to focus on the implementation of AMTSL in four districts, to ensure that AMTSL was routine practice for all childbirths.

Zambia has a high prevalence of both malaria and HIV, and feasible, evidence-based practices exist to reduce the impact of these diseases, particularly on the newborn. MNH/Zambia not only integrated strengthened content on MIP and PMTCT into the preservice work and safe motherhood guidelines, but also supported specific activities to implement these guidelines. MNH/Zambia chaired the MIP working group and spearheaded the development of specific MIP guidelines, including use of ITNs, IPT, improved prevention and management of anemia, and improved case management of symptomatic malaria in pregnant women. These guidelines were disseminated nationally, and staff from all nine provinces and 72 districts were oriented to the MIP guidelines and provided with additional materials to support healthcare providers and monitor implementation.

MNH/Zambia also facilitated the harmonization of PMTCT programs through the development of a standardized national PMTCT training package and building training capacity for its implementation nationwide.[12] This package integrates PMTCT into strengthened maternal and neonatal care, so that Zambia's PMTCT guidelines and training materials reinforce appropriate antenatal, intrapartum, and postpartum care practices relevant to PMTCT. It also reinforces all four pillars of PMTCT: primary prevention, FP, PMTCT for HIV-infected pregnant women, and linkages to clinical care for HIV-infected/HIV-exposed women and children. Reflecting the integrated nature of the PMTCT package, the MCK that MNH/Zambia developed as a tool to improve the quality, consistency, and thoroughness of antenatal care was selected as a key job aid to be scaled up with the national rollout of PMTCT programs. Together with the integrated PMTCT package, the MCK will help to translate the EMNC content of preservice and inservice curricula and clinical guidelines into improved care for clients.

[12] The work on the PMTCT training package was done in close conjunction with JHPIEGO's support to the MOH/CBOH for the scale-up of antiretroviral therapy, ensuring that both sets of materials incorporated appropriate specific sections on the care of HIV-infected pregnant women and HIV-exposed babies (diagnosis and staging, provision of HAART or ARV prophylaxis for PMTCT, and management of opportunistic infections).

Intermediate Result 1: Indicators and Key Results in the MNH/Zambia M&E Framework

Indicator 1: Human Capacity Development for EMNC

- Numbers of clinicians trained using MNH materials and competency-based approach
- Percentage of trained faculty and instructors observed who are competently providing services

Key Results: Human Capacity Development for EMNC:

- Preservice Midwifery Education
  - Training:
    - 179 clinicians and midwifery faculty trained in EMNC.
    - 165 midwives already graduated from the strengthened midwifery programs.
    - Total: 344 midwifery faculty and clinicians trained in EMNC (including inservice training and graduate midwives).
    - 200 students enrolled annually in the strengthened RM/EM programs (approximately 100 students in each program).
    - 124 clinicians and midwifery faculty trained in Clinical Training Skills.
  - Competency:
    - Midwifery graduates had an average score of 83 percent correct performance of all steps, combined for all seven of the clinical skills assessed, when they were evaluated at least 6 months after graduation (N=51). More than 50 percent of graduates performed at least 95 percent of the skills correctly for all seven clinical procedures.
- Active Management of Third Stage of Labor
  - Training:
    - 60 stakeholders oriented to AMTSL (through the PPH initiative).
    - 133 clinicians specifically updated in AMTSL (through the PPH initiative).
    - Total: 477 clinicians updated in AMTSL (including preservice EMNC training and midwifery graduates).
  - Competency:
    - Initial data from the evaluation of the ongoing PPH initiative show approximately 90 percent correct performance of all steps in the AMTSL checklist.
    - Midwifery graduates had an average score of 89 percent correct performance of all the steps related to AMTSL during the clinical skills observations conducted at least 6 months after graduation (N=51).
- Malaria in Pregnancy
  - Training:
    - More than 500 managers and clinicians oriented to the MIP guidelines.
    - More than 75 managers and clinicians trained in performance improvement for MIP.
    - Total: More than 800 clinicians updated in MIP practices (including preservice EMNC training and midwifery graduates, but *not* including second generation trainings conducted by District Health Management Teams).
    - Orientation packages (facilitator's guides, participant's guides and overhead transparencies) provided to all health training institutions and districts in adequate quantities for District Health Management Teams (DHMTs) to train staff from all health facilities in the country.

- Competency:
  - Additional data on MIP practices are currently being gathered and analyzed.

- Postabortion Care (jointly supported by the TRH Project and ZIHP)
  - Training:
    - 132 managers and 483 clinicians (total of 615) oriented to comprehensive PAC services.
    - 65 clinicians trained in PAC (not counting midwifery graduates who were trained as students).
    - 46 PAC providers trained as clinical trainers.
    - 10 PAC clinical training sites established.
  - Competency:
    - 85 percent of PAC providers assessed scored 80 percent or higher on MVA clinical skills observations, and 80 percent of those assessed scored 80 percent or higher on IP clinical skills observations (N=20).

- Infection Prevention (jointly supported by the TRH Project and ZIHP)
  - Training:
    - 665 managers and clinicians oriented to IP.
    - 350 clinicians trained in IP.
    - Total: 700 clinicians trained in IP practices (including preservice EMNC training and midwifery graduates).
    - 103 IP providers trained as clinical trainers.
  - Competency:
    - 80 percent of PAC providers assessed scored 80 percent or higher on IP clinical skills observations (N=20).
    - Midwifery graduates had an average score of 84 percent correct performance of all IP steps on all seven of the skills checklists used during their clinical skills observations, which were conducted at least 6 months after graduation (N=51).

- Client-Centered Care/Focused Antenatal Care
  - Training:
    - 50 antenatal care providers oriented to focused ANC and use of the MCK.
    - More than 500 managers and clinicians oriented to focused ANC and client-centered care through the MIP orientation process.
    - Total: 900 managers and clinicians oriented to client-centered care and focused ANC (including preservice EMNC training and midwifery graduates).
  - Competency:
    - Midwifery graduates had an average score of 86 percent correct performance of all client-centered steps on all seven of the skills checklists used during their clinical skills observations, which were conducted at least 6 months after graduation (N=51).

Indicator 2: Scale-Up of Strengthened EMNC Services/Benefits to Clients

- Increase in the number of service delivery points with providers trained in malaria in pregnancy
- Improved quality of services received by clients at clinical training after training

Key Results: Scale-up of Strengthened EMNC Services/Benefits to Clients:

- Strengthening Preservice Midwifery Education
  - Three RM and five EM schools (100 percent) strengthened.
  - Eight districts strengthened in EMNC services.
  - 23 facilities strengthened and providing improved EMNC services (clinical practice sites—these account for the majority of services in the 8 districts).
  - 130,000 average annual first antenatal visits in these 8 districts.
  - 88,000 average annual facility-based childbirths in these 8 districts.
  - More than 50 percent of the districts in Zambia already have graduates from the strengthened midwifery programs (the first 124 graduates were posted to 36 districts).
- Active Management of the Third Stage of Labor
  - Four districts strengthened in AMTSL under the PPH Initiative.
  - 19 service delivery sites strengthened in AMTSL under the PPH Initiative/
  - 200,000 women of reproductive age served by these 19 sites (total catchment area population of 937,000, excluding the referral hospitals)/
  - 72,000 annual childbirths by trained staff in these four districts.
  - Total: Nine districts strengthened in AMTSL (including districts strengthened through preservice midwifery activities).
  - Total: 97,000 annual childbirths by trained staff in these nine districts.
- Malaria in Pregnancy
  - Nine (100 percent) Provincial Health Teams oriented to MIP.
  - 72 (100 percent) District Health Teams oriented to MIP.
  - MIP Orientation Packages distributed to all districts in adequate quantities to orient staff from all health facilities in Zambia and health training institutions.
  - Additional data on MIP delivery are currently being collected and analyzed.
- Postabortion Care (jointly supported by the TRH Project and ZIHP)
  - Nine (100 percent) provinces with PAC services and clinical training capacity.
  - 11 PAC service provision sites established.
  - More than 25,000 women have received strengthened PAC services since 2000 (20 percent of all PAC clients are adolescents).
  - More than 7,000 women each year receive strengthened PAC services (2003 statistics).
  - More than 98 percent of PAC clients treated with MVA (as opposed to dilation and curettage).
  - More than 60 percent of PAC clients served accepted a modern FP method.
  - FP acceptance increased steadily: 39 percent in 2001, 53 percent in 2002, and 66 percent in 2003.
- Infection Prevention (jointly supported by the TRH Project and ZIHP)
  - Nine (100 percent) Provincial Health Teams oriented to IP.
  - 100 percent of provinces and more than 50 percent of districts with clinical staff trained in IP.
  - IP guidelines produced and distributed in adequate quantities to have multiple copies at every health facility and training institutions.

Intermediate Result 2: Increased demand for quality maternal and neonatal services

MNH/Zambia's BCI strategy has combined mass media and multimedia behavior change communication and social mobilization activities to improve health-seeking behaviors and increase the demand for high-quality maternal and neonatal services.

The mass media/multimedia activities were primarily integrated into ongoing behavior change communication programs established under the CBOH with technical support from the JHU/CCP-led communications component of the USAID bilateral ZIHP. The MNH Program was able to update and strengthen the content of existing maternal and neonatal programming, as well as develop and produce additional specific content material and programs. Since 2000, MNH/Zambia has produced and sponsored several month-long sessions of the Better Health Campaign (BHC)[13] on maternal health and MIP. The Program also contributed technical input into other segments of the BHC on related topic areas, such as male involvement, FP, and PMTCT. In conjunction with the BHC, MNH/Zambia sponsored a successful "journalist competition." The Program provided journalists with background information on maternal and neonatal health statistics and interventions and challenged them to produce high-quality stories, television programs, or radio broadcasts on relevant topics. This competition generated 40 stories (25 articles, 12 radio broadcasts, and three television programs) in a period of 2 months, and many of the journalists have continued to produce periodical pieces on safe motherhood.

In conjunction with the mass media/multimedia programs, MNH/Zambia had a two-fold social mobilization strategy, strengthening both public sector and NGO social mobilization activities. The primary focus of strengthening the public sector social mobilization capacity was geared toward Neighborhood Health Committee (NHC)[14] members. Working with ZIHP, MNH/Zambia provided technical and material assistance to strengthen the maternal health content in both the basic radio-based distance education program "Our Neighborhood" and the follow-on "Sister Evelina" program. This included editing and rewriting the key messages and radio scripts, and developing and producing information cards for NHC members on relevant topics such as birth preparedness, birth planning, danger signs in pregnancy, and MIP. The Program also contributed to related topics including FP, HIV/AIDS, PMTCT, and the use of Community Theatre for Action. The NHC distance education program has reached more than 27,000 NHC members who registered for the program, representing 67 out of 72 districts in the country. This figure does not count the numerous additional listeners (unregistered NHC members, health workers, and other community members) who benefited from the programs.

Although the NHCs are an important extension of the public health system, public sector health resources, including human resources, are limited in Zambia. Recognizing that NGOs play a critical role in social mobilization and supporting role to the public health sector, MNH/Zambia also fostered the establishment of the Zambia White Ribbon Alliance for Safe Motherhood. Six organizations came together to form the ZWRASM when it was established in July 2000. The team mobilized the Minister of Health, who launched the White Ribbon as a symbol for safe motherhood in March 2001. Since that time, the ZWRASM has grown to include 34 member

[13] The Better Health Campaign is a coordinated combination of television, radio, and print media on relevant health topic areas, generally focusing on one topic (e.g., safe motherhood) over a 4-week period.

[14] Neighborhood Health Committees were created under the health reforms in Zambia to serve as a link between communities and the health centers that serve them. They also help mobilize those communities for better health under a new "community empowerment" paradigm that replaced the old "community outreach" approach.

organizations, ranging from large INGOs to small community-based organizations, not counting the dedicated individuals who have joined independently. MNH/Zambia has provided leadership and support to the ZWRASM since its inception and has funded a small secretariat to facilitate the networking aspect of the Alliance. The Program has also contributed by providing a wide range of technical updates, resources, and materials to the secretariat and member organizations.

Although the challenges of maintaining a low-resource networking organization are daunting, the Alliance has nonetheless achieved tremendous results in its initial few years of existence. In addition to promoting dedicated white ribbon campaigns around Mother's Day focusing on BP/CR, the Alliance has successfully lobbied multiple partners to adopt these key messages as themes for other high-profile events (World Population Day, International Women's Day, International Nurses' Week, etc.) that have expanded the Alliance's reach. ZWRASM has also participated in international events, sharing experiences and lessons learned in Zambia. This includes one presentation at the Global Health Council (GHC) in 2002, five presentations at the GWA conference "Saving Mothers' Lives: What Works" in India in 2002, and two presentations at the GWA capacity building workshop in Zambia in 2003.

In recognition initial success and potential of the ZWRASM, UNFPA adopted the Alliance as one of seven key implementing partners in its current 5-year country program, funding two Alliance representatives in Northwestern Province who have successfully carried out social mobilization activities for safe motherhood. In 2003, ZWRASM was chosen by the Global White Ribbon Alliance to host the recent capacity building workshop for 105 participants from 19 countries. In addition, the Zambia White Ribbon Alliance was just selected by the GHC to receive one of three annual Global White Ribbon Alliance awards in 2004.

Intermediate Result 2: Indicators and Key Results in the MNH/Zambia M&E Framework

- WRA secretariat established.
- The ZWRASM was established in July 2000 and officially launched in Zambia by the Minister of Health in March 2001.
- Change in number of organizations involved in ZWRASM.
- ZWRASM membership grew from six organizations in July 2000 to 34 organizations in May 2003.
- Change in number of events by Alliance members.
- Additional data are in the process of being collected and analyzed.
- Members' perceptions of the effects of the alliance work.
- Additional data are in the process of being collected and analyzed.

Intermediate Result 3: Improved policy environment for essential maternal and neonatal survival

The updated curricula and teaching materials developed with the GNC for the registered and enrolled midwifery programs have been adopted as the national curricula. This work, in turn, has been pivotal in establishing and updating a number of national clinical protocols and guidelines, including the following:

- *Integrated Technical Guidelines for Front Line Health Workers*, July 2002 revision (geared toward staff at the health center level)
- *National Infection Prevention Guidelines*

- Malaria in Pregnancy guidelines and orientation package
- Integrated PMTCT Protocol Guidelines and standard training package

MNH/Zambia continues to support the Safe Motherhood task group under the RH Subcommittee to develop comprehensive clinical guidelines for maternal and neonatal health (these are in greater detail and cover higher-level health facilities and more complex procedures than the ITG). MNH Program technical staff have also contributed to the ongoing work on the Integrated Reproductive Health action plan, and the new RH policy document (just recently finalized by the MOH and forwarded to the legislature).

MNH/Zambia has played a pivotal role in numerous government subcommittees on RH, safe motherhood, PAC, IP, MIP (see IR 1), while a wide range of policymakers inside and outside of the health field have been influenced by the MNH Program's behavior change communication and social mobilization activities (see IR 2).

Through this technical support, and combined with its other activities, MNH/Zambia has had a significant impact on improving the enabling environment for maternal and neonatal health in Zambia. As evidence of this impact, partners such as UNICEF and UNFPA have increased the visibility and role of key MNH Program interventions in their new country programs while the Reproductive Health Subcommittee, which was inactive for several years, has been reactivated and now meets regularly. In addition, the CBOH has increased the personnel and capacity of the RH unit in the Directorate of Public Health and Research and also increased the level of funding available for RH interventions in the annual CBOH action plan.

Intermediate Result 3: Indicators and Key Results in the MNH/Zambia M&E Framework

- International standards for EMNC adapted and approved by the government
- ITG updated to conform to international standards for EMNC, adopted by CBOH/MOH
- National IP guidelines developed and adopted by CBOH/MOH
- Revised midwifery training curriculum approved
- RM and EM curricula developed and adopted by GNC
- Malaria implementation order for IPT with SP in place
- MIP guidelines adopted
- MIP guidelines adopted, including promotion of ITNs and IPT for all pregnant women, by the CBOH/MOH
- MIP orientation package adopted
- MIP orientation package adopted by NMCC/CBOH/MOH and disseminated nationally
- Malaria in pregnancy package disseminated
- International standards have been used at upgraded MNH service delivery sites
- EMNC knowledge and skills updates conducted
- AMTSL and MIP implementation supported
- IP practices strengthened
- Curriculum strengthening team recommendations adopted
- Still in negotiation (the major stumbling block is the recommendation to extend the program to 18 months, in the face of the current human capacity deficit and the high attrition rate among midwives)

Intermediate Result 4: Increased collaboration among organizations promoting maternal and neonatal care

From its inception, the MNH Program in Zambia was designed to complement and enhance established programs and partners in Zambia. The strategy employed was, whenever possible, to work through existing partners on the ground. This helped to build ownership of key programs and capacity to implement critical interventions while ensuring an increased likelihood for sustainability. In addition to the support provided directly to the MOH, CBOH, and other government bodies (e.g., GNC and midwifery schools, NMCC, and UTH), MNH/Zambia supported other USAID partners and other donor programs. The Program worked closely with the USAID bilateral technical assistance program, ZIHP, and other USAID-funded partners (e.g., Boston University's ARCH program, AED's Linkages Program, the University of Alabama at Birmingham and the EGPAF Call-to-Action Program). MNH/Zambia also worked closely with GTZ, UNFPA, UNICEF, and WHO to support specific components of their reproductive and maternal health programs. Through its support for the ZWRASM, the MNH Program also provided support and leadership to a network of INGOs, NGOs, and CBOs active in promoting and implementing safe motherhood activities in Zambia.

MNH/Zambia supported the last two annual Reproductive Health Stakeholders' meetings by helping to prepare the agendas, key presentation materials, and mapping exercises to collect information on partners' RH activities. The MNH Program also helped take the lead in documenting the meetings and preparing the workshop proceedings reports.

Intermediate Result 4: Indicators and Key Results in the MNH/Zambia M&E Framework

- Participation of the Program in international fora.
- Four NGO representatives sponsored to participate in CORE Safe Motherhood meeting (March 2000, Nairobi).
- ZWRASM coordinator participated in the AMANITARE Skills Exchange Retreat, "Free Africa from Violence against Women" (June 2001, Gambia).
- Four ZWRASM members sponsored to participate in the Regional Centre for Quality of Health Care course "Improving Quality of Care: MNH Update" (August 2001, Uganda).
- Poster presentation delivered at the GHC on ZWRASM (May 2002, US).
- Four Zambians participated in and completed the MNH Regional Experts Development series of workshops and courses.
- Two people participated in the ECSACON Annual Meeting and presented on the RM strengthening program (August 2002, Tanzania).
- One person sponsored to participate in the WABA Breastfeeding Meeting (September 2002, Tanzania).
- Five ZWRASM members participated in the GWRA Conference and presented five papers/posters (October 2002, India).
- Two MNH/Zambia staff attended the APHA conference and did a poster/presentation (November 2002, US).
- Hosted GWRA capacity building workshop; 40 members attended (November 2003, Zambia).
- One MNH/Zambia staff member attended the APHA conference and did a poster presentation (November 2003, US).
- Received GWRA Contest Award (May 2004).

- Three participants sponsored to attend the International Best Practices meeting and gave three presentations (June 2004, Uganda).
- Resources leveraged by country program.
- TRH Project activities funded for improving IP (USAID—TRH Project [JHPIEGO]).
- TRH Project and ZIHP funding for PAC activities to establish provincial training capacity in obstetrics and gynecology (USAID—TRH Project [JHPIEGO]/ZIHP [JSI]).
- ZIHP-funded safe motherhood behavior change communication programs strengthened with MNH technical input [USAID—ZIHP [JHU/CCP]).
- MNH/GNC-revised RM curriculum materials utilized in the Department of Ob/Gyn for training medical interns and residents (GRZ/UNZA).
- MNH/GNC-revised RM curriculum materials utilized in obstetric training for Medical Licentiate program (GRZ/UNZA/Chainama College of Health Sciences/ Netherlands).
- MNH midwifery curriculum revision and strengthening approaches adopted by the GNC for revision of other preservice nursing curricula (GNC and USAID—ZIHP [JSI]).
- ZIHP RH training strengthened with MNH technical input [USAID—ZIHP [JSI/ Abt/JHUCCP]).
- UNFPA sponsored two participants to the GWA conference in India (UNFPA).
- RCQHC sponsored two participants to a MNH update course (USAID/REDSO—RCQHC [MNH]).
- MNH Program funding: UNFPA 5-year program contract to the ZWRASM for technical assistance in their new country program (UNFPA).
- LSS Training: MNH RM curriculum materials and draft protocols provided to University of Alabama Birmingham/Lusaka Urban DHMT for incorporation into a life-saving skills program training nurses and midwives in Lusaka (UAB).
- MNH Program leadership in training led to incorporation of MNH key concepts/skills into PMTCT training programs (USAID—Linkages [AED], EGPAF [UAB]).
- SP procurement: MNH Program input into MIP/drug change debates helped leverage funds to purchase and distribute additional stock of SP for IPT (DFID, GRZ, Netherlands, Global Fund).
- UNICEF and WHO support for printing of the MCK for national dissemination.
- UNICEF, Global Fund, Centers for Disease Control and Prevention, and other USAID partner support for printing of the national standard PMTCT training package developed with MNH technical assistance.
- MNH products and approaches adopted and used incountry.
- MNH guidelines: MCPC manuals provided to Zambia and distributed nationally by the CBOH.
- Registered Midwifery Teaching Package (six volumes: core competencies, curriculum, activity outlines, procedure manual, learning guides, and checklists) developed, adopted, and implemented at all RM schools.
- Enrolled Midwifery Teaching Package (six volumes, as above) developed, adopted, and implemented at all EM schools.
- ITG updated and distributed nationally.
- Malaria in Pregnancy Orientation Package developed, adopted, and disseminated nationally.
- PMTCT Training Package developed and adopted for national scale-up training.
- MCK developed and adopted for national dissemination.
- PAC individualized learning package and approach adopted by National PAC Task Force and used for national scale-up (joint TRH Project and ZIHP funding).

- PAC Orientation Package for Managers and Supervisors adopted and disseminated nationally (joint TRH Project and ZIHP funding).
- National Infection Prevention Guidelines developed, adopted, and disseminated nationally (joint TRH Project and ZIHP funding).
- IP Learning Resource Package adapted and adopted for national implementation of IP guidelines.
- Numerous Better Health Campaign TV, radio, and newspaper productions on safe motherhood, MIP, and related topics produced and aired nationally (multiple stations and languages).
- Strengthened MNH content in NHC distance education programs adopted and delivered nationally to NHC members.
- NHC cards on specific MNH topics (birth preparedness, danger signs in pregnancy, birth planning, MIP, etc.) developed, adopted, and disseminated nationally to health centers and NHC members registered in the distance education program.
- White Ribbon Alliance fliers with key messages on maternal health in Zambia produced and disseminated at social mobilization events and activities.
- ZWRASM Mother's Day Social Mobilization Tool Kit disseminated to ZWRASM member organizations.
- MNH BP/CR Matrix disseminated to ZWRASM members during safe motherhood technical update workshops.
- Two ZWRASM bulletins produced and disseminated to members and partners.
- Safe Motherhood Journalist Competition: 40 newspaper, radio, and television stories produced in a 2-month period.

Sustainability of MNH/Zambia Program Investment

From the outset and initial design of the Program, MNH/Zambia planned for sustainability by working collaboratively with key incountry partners, supporting existing institutions, and integrating efforts across elements of the Program and with the efforts of other donors and technical assistance agencies. To ensure continuation of the various maternal and neonatal health activities beyond the MNH Program, MNH/Zambia has worked diligently to support and strengthen existing programs and institutions in Zambia, rather than to create new programs. Following are examples of this in-country collaboration:

- Preservice nursing education is within the mandate of the GNC and individual schools, and all of the MNH Program's work has been conducted through and in collaboration with these institutions.
- PAC activities are conducted by the National PAC Task Force and CBOH, with support from MNH/Zambia.
- MIP activities are conducted under the NMCC and the RH Specialist of the CBOH.
- IP, AMTSL, PMTCT activities are conducted through the Directorate of Clinical Care and Diagnostic Services of the CBOH.
- BCC mass media/multimedia programs are conducted through existing CBOH programs.
- The Neighborhood Health Committee distance learning program has been adopted by the CBOH and the districts.

Much of the MNH Program's work in Zambia has been institutionalized, ensuring long-term impact and enhancing the sustainability of Program activities. For example, the RM and EM curricula are national documents, and IP principles have been incorporated into the newly developed national Infection Prevention Guidelines. In addition, PMTCT work and the MCK have been incorporated into a national standard learning resource package to be used by all partners, and the MIP activities, which the MNH Program spearheaded, are one of the three primary arms of the country's Roll Back Malaria program and have been institutionalized in national orientation and scale-up documents. The only national clinical protocol document in the country—the ITG—has been revised with MNH Program leadership so that the maternal health sections include general EMNC protocols consistent with the midwifery curricula, including specific interventions such as AMTSL, PAC, IP, IPT with SP, and PMTCT.

Another critical component of sustainability is the integration and interrelationship among and mutual support provided by various "vertical" elements within the MNH/Zambia portfolio (see **Figure 8**, above). For example, AMTSL, PAC, MIP, and IP have been incorporated into midwifery curricula and midwifery schools. The MIP interventions, focused antenatal care, BP/CR, and AMTSL have all been incorporated into the PMTCT learning resource package, and IP cuts across and is incorporated into all the various program initiatives so they are consistent with and reinforce each other. Similarly, the approach favored by the MNH Program in "team teaching," bringing different cadres and, as appropriate, administrators and supervisors together, has also helped to reinforce and enable better implementation of programs and initiatives. The links between midwives and doctors, for example, have been strengthened at all the preservice practicum institutions. This is particularly evident at the UTH, where the investments from the preservice midwifery program have had a direct impact on the teaching environment for medical students. Consequently, doctors have adopted many of the midwifery teaching materials to teach their interns and junior doctors.

The Zambia White Ribbon Alliance for Safe Motherhood is the single MNH/Zambia intervention that was created independently, by design. However, as a network and alliance of existing organizations, including government, donors, NGOs, and CBOs, it is not wholly independent and can continue to exist, with minimal support, after the MNH Program comes to an end. Already, UNFPA has incorporated ZWRASM as an implementing partner, funded within their new 5-year country strategy. The Alliance continues to seek additional sources of core funding and support, both from members and private and public donors.

The majority of the interventions and approaches that the MNH Program has spearheaded and supported in Zambia have been incorporated into the newly designed USAID/Zambia bilateral program, so that continued technical support should be available when necessary to continue to support MNH/Zambia partners and build on the work accomplished to date. In addition, the WHO, UNICEF, and UNFPA have increased the visibility and scope of key MNH interventions in their respective programs, and have also incorporated key interventions in social mobilization, essential obstetric care, PMTCT, etc. This will also further ensure continued support for key interventions and progress toward improved maternal and neonatal health in Zambia in the coming years.

ZAMBIA APPENDIX 1: MATERNAL DEATH CASE STUDY

Health Reforms: Healthcare as Close to the Family as Possible?

A maternal death case study presented by Pauline Borsboom, a Dutch Medical Officer posted in Chilonga, Zambia, in 2000.

To show my concern about (maternal) healthcare in the northern province of Zambia, I would like to present the following case.

A 19-year-old woman came to our hospital in Chilonga at midnight on 20 October. This was her first pregnancy (gravida 1), and she had gone into labor around 12:00pm at home on 26 October. She arrived at her local Rural Health Center at 3:00am on 27 October, 15 hours after her labor had started. According to the notes, fundal pressure was done and a drip (contents not mentioned) was given. According to the relatives, the midwives at the health center made her push for a long time (although it is unclear when and for how long). At the health center, after fetal distress, the fetal heart could not be heard anymore, contractions had stopped after having been mild, and the now dead baby was not delivered yet.

On 30 October, the fourth day after the onset of labor, she was transported "for further treatment" to Isoka Hospital, where there was no oxygen. Next on the road was Chinsali Hospital, where there was no doctor. The next hospital along the great north road is Mpika Hospital, to which she was not sent. In the end, about 600km from the rural health center where she originally presented, was Chilonga Mission Hospital.

That same night the patient went to the operating room, under suspicion of a ruptured uterus (BP 90/60, red urine, fetal parts felt in abdomen, head visible in vulva). Through a Joel-Cohen incision, the floppy uterus, which surprisingly had not ruptured, was opened to allow the birth of the dead baby. Only after decapitation in utero was it possible to for the dead baby, which was stuck in the vulva, to be born. Then it appeared that the inside walls of the uterus had started to necrotize because of the 4 days of pressure from the baby's head. Different parts of visceral peritoneum (uterus, bladder, rectum) were dubious in viability. A total hysterectomy was done, leaving as much healthy peritoneum as possible. Post-operatively, the usual high dose of IV broad-spectrum antibiotics was given but could not prevent peritonitis, and the urinary catheter could not prevent a 4cm diameter vesico-vaginal fistula to develop. A recto-vaginal fistula (RVF) of 3cm diameter had formed as well, and a fistula between the bowel and the Joel-Cohen incision discharged pus and stools. She developed sores due to edematous labia, and the leaking of stools also caused sores around the anus and vagina. Several speculum examinations were done to remove necrotic vaginal wall tissues, including what was thought to be pieces of bowel.

The patient was still not mobile, as her right leg was not moving well after the prolonged labor. Her husband came to visit her once in a while, still caring for her and having patience with her. Her sister assisted the nurses in cleaning her wounds and wiping stool and urine from the wound and vagina.

A surgeon and gynecologist from Kasama offered to operate on her in Chilonga to repair the three fistulae. This could only be done about 3 months after her initial hysterectomy, when the tissues are clean and the patient is fit for operation.

However, prolonged infection, malnutrition (despite providing her with high-energy protein supplements), and general malaise resulted in her death on Christmas Eve.

Unfortunately, this story is just one of the many that show us that much is still left to be done in improving health infrastructure and obstetric care. This was one of the worst cases I have ever seen, but the stories of unseen patients who die at home because of ignorance and transport problems will never be told.

Pauline Borsboom
MO general, OLH Chilonga
December 2000

ZAMBIA APPENDIX 2: SELECTED SUCCESS STORIES

Improving Maternal Health Through Improved Childbirth Practices

Lazoarous and Evelyn Chanda are a young couple who married in 1998 and were recently blessed with a lovely baby boy named Joshua Mutale. Joshua was born at the University Teaching Hospital on 19 October 2001 at 11:20, in the presence of his grandmother, who was allowed to attend the childbirth. The family was ecstatic, as they had previously suffered a premature childbirth resulting in the loss of male twins.

Their first childbirth experience had been very bad, and they were very worried about what might happen this time. Evelyn's mother, who was very apprehensive at the start of the labor, said, "*When I took Evelyn to the hospital to [give birth], we were very worried as she had had a nasty experience at the hospital last May when she lost the last pregnancy, which were male twins*." Evelyn's mother said the midwifery care had been really bad the first time: Evelyn was left alone to give birth and the labor took a long time, resulting in the loss of the twins.

Following several studies that revealed similar complaints by many clients, USAID's Maternal and Neonatal Health (MNH) Program began an initiative aimed at building the skills and knowledge of healthcare providers. The MNH Program is providing technical assistance to the General Nursing Council (GNC) of Zambia to strengthen preservice nursing education in essential maternal and neonatal care. This includes strengthening service delivery sites, such as the University Teaching Hospital, where students practice their skills. Through this program, the registered midwifery (RM) curriculum has been revised and a learning package developed, introducing new, evidence-based best practices. Among the best practices that are now being practiced and taught are client-centered care and improved interpersonal communication, allowing women to give birth in different positions and have a friend or relative present for social support during labor and childbirth. All of these simple, no-cost interventions have been shown to facilitate labor and reduce the number of complications.

It is not surprising that Lazoarous and Evelyn Chanda are today very happy after the successful birth of Joshua Mutale. Both mother and grandmother were very happy with the services provided at the hospital by the attending midwives and the doctors this time. Evelyn reported the following: "*I was treated very nicely; the midwives were wonderful and the new position I delivered in made my labor so much easier, I delivered within 2 hours of arriving in UTH after being in labor for 4 hours*." Her mother adds, "*With this childbirth I was allowed to sit with my daughter throughout the whole period. When the nurses said I could sit by the bedside of my daughter, I was a little apprehensive at first and only felt reassured when they introduced themselves and I saw how they looked after my daughter*." In Evelyn's case, the interventions improved the quality of care and made her childbirth a much safer and more enjoyable experience.

The MNH Program worked with the GNC to train a core team of healthcare providers, known as the Curriculum Strengthening Team (CST), prior to revising the curriculum. The CST members

have been updating and training additional faculty and providers in best practices in essential maternal and neonatal care. This ongoing training is geared to improving services in the clinical sites where student midwives go for their clinical practice as part of the implementation of the revised curriculum. The intervention encompasses all three of the RM schools in Zambia—so all new graduates from the RM program will be taught using the new curriculum—and has included clinicians from 20 service delivery sites where RM students go for practical training (including two of the largest hospitals in the country). As a result, the services available to clients in these sites are showing a marked improvement in quality of care. During and after the training, the service delivery sites reported an increase in the number of clients coming for childbirth as the word has spread in the community about the improved quality of services. The materials developed are now also being used to improve maternal and neonatal education in both the registered and enrolled nursing programs, a new medical licentiate program, and the medical school.

The staff members who have been trained have also appreciated the chance to learn new skills and practice them with coaching from the trainers. They have seen that these best practices make a difference in facilitating labor and reducing complications. The midwife who conducted Mrs. Mbelenga's childbirth stated, "*Since I had my knowledge and skills updated by the MNH Program, I feel more confident in managing women in labor, and also the new best practices of the different positions in labor have reduced the time women spend in labor and the complications that women have*."

Linkages Between Emergency Care and Other Reproductive Health Services

KK, who is 22 years old and has been married for 3 years, has had two spontaneous abortions. Both occurred in the second trimester. After the last one, on 6 September 2001, she had complications and came to the hospital for treatment. The uterus was evacuated by manual vacuum aspiration (MVA), to stop her bleeding and prevent her from developing an infection, either of which could have resulted in her death. During her post-procedure counseling, KK was crying and wondering whether she would ever hold a baby in her arms. Because the strengthened postabortion care (PAC) services at the hospital now include pre- and post-procedure counseling, she was able to discuss her problems, and the counselor helped to link her up with available fertility services.

The next day she came with her husband, willing to proceed with the investigation of any reasons for her previous spontaneous abortions. He was very grateful, because "*we didn't know what to do next*." Investigations indicated that she had cervical incompetence. As a result, as soon as she got pregnant again she came back to the hospital immediately and is being closely observed during her antenatal period. She is also scheduled to have a procedure that may resolve her problem and allow her to carry her current pregnancy to term. KK and her husband are very grateful for the efforts being made to assist them in their situation, and for the care that they have been receiving. Without the introduction of high-quality counseling and linkages to FP and other RH services that have been introduced, they may have continued without knowing the reason for their losses and without receiving any help in their desire to have children.

Like KK, BM is a 29-year-old woman who has been married for 6 years and has no children. She has had two first trimester spontaneous abortions and reported that each time she conceives, she miscarries and "*has never had any followup to know why she loses her pregnancies*." On 16 May

2001, at 10 weeks' gestation, she was admitted to the hospital with a diagnosis of inevitable abortion, and on 17 May, she lost the pregnancy. She was counseled about what had happened and how the staff would help manage her condition, and an MVA was done to prevent her from bleeding or developing sepsis. After the MVA, she also received counseling and, although she was very sad and upset, she was able to express herself and talk about her problems. As a result, she too has been linked to other RH services and is undergoing several investigations into the possible causes of her repeated abortions

In comparing this visit to the hospital to her previous experiences she confessed, "*this MVA was different from the previous two*." She appreciated the counseling and the comforting words even during the procedure, where previously she had no pre- or post-procedure counseling and nobody talked to her during the procedure. As a result of the attention she received, she was much more relaxed, and she said the pain was much less even though no drugs were used. In commenting on this to the staff, she said, "*If this is the way you people work all the time, you would make our burden lighter*." At this point in time, BM is very happy with the benefits she has received from the improved services. She is happy finally to be getting some help with her problems, and she said that, "*what is more satisfying is the fact that now I know everything is being done, and I am not afraid to ask questions if I need clarifications*." She has urged the staff at the hospital to keep up the spirit of caring that she observed during this visit to the hospital, and she reports she has been encouraging other women with problems not to shun the hospital any more.

The main purpose of strengthening PAC services is to ensure that comprehensive, safe, and effective services are offered to clients. Up to 30 percent of maternal deaths in Zambia are due to complications of abortion. Many of these deaths can be prevented with prompt care, which can be safely and cost-effectively provided using MVA. In addition to treating the medical emergency, however, a high-quality service demands more. Women who come with complications are often distressed and require special care and counseling to help them understand their problems and how the providers can help them. A frightening time can be made easier by simple steps, such as talking to the woman during the procedure and helping her understand what is going on. Many clients rarely come to a hospital or health facility, so this is also an opportunity to identify any other potential health needs and link these women to the appropriate care, which can only be accomplished if the providers are motivated and oriented to this type of comprehensive care, and if they take the time to talk to the patients and investigate their situations and needs.

Women like KK and BM, who are trying to have children but are experiencing problems, need to be identified and linked to services which may help them resolve their problems. For those women who do not want children, providing FP counseling and services can often prevent repeat abortions. For other women, it may be a rare opportunity to discuss or identify issues related to their sexual health, STIs, HIV/AIDS, and any other gynecologic problems or concerns they have.

JHPIEGO (TRH Project and MNH Program) has been supporting the National PAC Task Force to develop high-quality services and training sites in its effort to make high-quality comprehensive PAC services available nationwide. Because of collaboration with the Ob/Gyn department of the UTH, the services at the three national referral hospitals and all provincial hospitals have been strengthened and on-the-job PAC training has been initiated. In the past year, more than 7,000 women have benefited directly from these improved services.

Integration of Family Planning Counseling and Services and Male Involvement

One of the challenges of providing high-quality PAC services in Zambia has been the issue of male involvement, especially when it comes to the provision of FP services. Most of the men who deny their wives the opportunity to use contraceptives do so because they lack adequate information. In the gynecology ward at the University Teaching Hospital, where PAC services are offered, the PAC providers have been actively trying to include male partners in the group counseling sessions.

This does pay off, as in the case of Mr. GP from Kafue, whose wife miscarried at 18 weeks' gestation and came for emergency evacuation. At home they have three other children, and GP is a farm laborer who does not have a high income. GP was encouraged to join his wife in the counseling room after the MVA was completed.

The provider discussed the MVA procedure and gave the couple instructions on how to recognize danger signs and discussed what to do if they experienced any problems. They also discussed how soon the wife would be fertile again, and the couple expressed their fear of getting pregnant again. They asked: "*Can you please find a way of helping us; we don't want to have another baby now*." When asked, it turned out that they did not have any information about FP, and the husband said he knew only about condoms in relation to prevention of HIV/AIDS.

The provider proceeded to counsel the couple on FP methods, and they talked together about the couple's concerns. The husband was more open than the wife during the discussion, reflecting some of the cultural norms in Zambia, and she even wanted her husband to chose a FP method for her. But, with help from the provider, the woman was also engaged in the conversation. The husband also encouraged his wife and insisted that she be the one to choose a method she was comfortable with and ensured her that he would support her. At the end of the day, they chose to use Depo-Provera, and after her first injection the couple was given a FP card and instructions on how to continue to access services once they returned home to Kafue.

The couple was very grateful, and wished that all women and couples would go through the same sort of supportive counseling.

FP acceptance in Zambia is still low, and there continues to be a great unmet need for services. Unfortunately, this contributes to the problem of unwanted pregnancies and also that of abortion in Zambia. JHPIEGO (TRH Project and MNH Program) has been supporting the National PAC Task Force to develop high-quality services and training sites, in its effort to make high-quality comprehensive PAC services available nationwide. Because of collaboration with the Ob/Gyn department of the UTH, the services at numerous PAC service delivery sites have been strengthened to include all the elements of high-quality PAC services, including FP counseling and services.

Providing Client-Centered Counseling and Psychosocial Support

The unfortunate fact is that many of the patients coming with complications of abortion to the postabortion care (PAC) service sites in Zambia are young, unmarried girls. Often, they are in this situation because they have not had access to RH information and services, and also, once they become pregnant, they are afraid to let anyone know of their condition. Without support,

they risk being ostracized and shunned rather than cared for and helped to avoid such problems in the future. The story of JM is such a case.

JM is a student who just finished school. Her parents were looking forward to her results and had plans to send her to a good college, as she was their first-born daughter. However, JM found herself in a relationship with a young man who pressured her into having sex and assured her that it would be all right if they only had sexual relations once. She gave in to his advances but soon discovered that her period did not come. After her second missed period, she had to admit that something was wrong and that she was pregnant.

She panicked and decided to terminate the pregnancy before her parents could find out. She went to a local doctor who gave her some herbs to drink and inserted a cassava stick in her uterus to provoke an abortion. She was told, *"Go back home, everything will happen naturally without anyone knowing."* Unfortunately for her, things were not that easy. Instead, she was in great pain and could not sleep, tossing and turning and crying until her mother became suspicious. Eventually she told her mother what had happened, and her mother rushed her immediately to the hospital.

On arrival, JM was received, assessed, examined, and diagnosed with an incomplete abortion. The cassava stick was removed from her uterus during the examination and, as she was bleeding severely, her uterus was evacuated with manual vacuum aspiration (MVA) immediately to prevent further blood loss.

After recovery, JM had a chance to talk to a healthcare provider about her situation and to receive some counseling. She was told how to take care of herself and to recognize any complications or danger signs after the procedure. She was also counseled on how quickly she might return to fertility and get pregnant again and was told about ways she could prevent another unwanted pregnancy by using FP. After counseling, she decided that she was committed to abstaining from further sexual relations, after this experience, because she was very anxious to concentrate on her studies and did not want to disappoint her parents again.

However, her parents were very angry with her and vowed to take stern measures to punish her for what she had done. This made JM scared to go home, and she did not know what to do. Her parents came to the hospital with one of her aunts and expressed how disappointed they were with her. The healthcare providers at the hospital took advantage of this opportunity and convinced the parents and also the aunt, who seemed to have a lot of influence over the parents, to discuss JM's situation with them further. After much discussion with the parents, and separately with the aunt, the family was able to reach a point of forgiving JM and providing her with a supportive environment to help her recover from the trauma she had already been through and to help make sure she stayed with her newfound commitment to abstain from sexual relations.

When JM heard of this, she asked to be able to apologize to her parents in front of the counselors, and the family was able to overcome some of the tension and friction that had resulted from the situation. The parents thanked the counselors for helping them realize that their reaction was going to further aggravate the situation and cause even more trauma for their daughter. They promised to support JM and encouraged her to be able to come and talk to them openly in the future, before taking any drastic actions.

Behavioral studies show that sexual activity begins at a very early age in Zambia, and a large proportion of PAC clients fall in the youth category. This situation is a testament to the problems in providing information and skills to the youth that will help them delay the initiation of sexual relations and to prevent unwanted pregnancies once they have begun having sexual relations. High-quality PAC services can be one way of trying to redress a missed opportunity and ensure that girls who have suffered the complications from one unwanted pregnancy get the information and services they need to help prevent a repeat occurrence. They can also provide a rare opportunity to give these scared girls the psychosocial support that they may need to be able to face their problems and to make positive changes for the future.

JHPIEGO (TRH Project and MNH Program) has been supporting the National PAC Task Force to develop high-quality services and training sites, in its effort to make high-quality comprehensive PAC services available nationwide. Because of collaboration with the Ob/Gyn department of the UTH, the services at numerous PAC service delivery sites have been strengthened to include all the elements of high-quality PAC services, including FP counseling and services. The emphasis with healthcare providers on nonjudgmental attitudes, empathy, and open and effective communication has created the opportunity for the PAC healthcare providers to go one step beyond providing emergency services and also enabled them to provide the necessary psychosocial support that was previously missing from these services.

ASIA

AFGHANISTAN 2001–2003

EXECUTIVE SUMMARY

The purpose of the MNH Program's efforts in Afghanistan was to rapidly expand the number of midwives providing services in rural and remote parts of the country. These new providers, by the time they graduate, should have skills in core competencies of maternal, newborn, and reproductive health. The MNH Program was also instrumental in guiding human resource policies in Afghanistan. For example, MNH Program advisors reviewed the entry-level requirements, and duration of training, and successfully advocated for temporarily admitting women with less education (the impact of the Taliban's ban on female education has made higher entry-level requirements a tremendous barrier) and for a shorter, but more effective, midwifery education program.

MNH Program funding was supplemented with funds and inputs from UNICEF. Together, an initial needs assessment was carried out, strategies developed, and initial midwifery education curricula were developed. Efforts are now continuing under a new bilateral project, Rural Expansion of Afghanistan's Community-based Health (REACH).

The MNH Program Legacy

The efforts in Afghanistan contributed to the MNH Program legacy in several ways. These are described below in conjunction with key legacy statements.

Establishes and promotes international evidence-based standards for essential maternal and newborn care through global partnerships

The MNH Program in Afghanistan advocated for the use of the *Managing Complications in Pregnancy and Childbirth* (MCPC) manual as a key reference and guideline for the country. UNICEF and the World Health Organization (WHO) translated and printed the manual in two Afghan languages, Dari and Pashtu. This manual was also the main reference for the new midwifery education curricula.

Building on training funded by the AMDD program and funds from UNICEF, the MNH Program also built capacity for training in comprehensive emergency obstetric care in five national and regional hospitals. These hospitals are UNICEF Centers of Excellence and serve both as regional referral centers and training sites. Teams of obstetricians, midwives and anesthetists were trained together in updated knowledge and skills. They now conduct 5-week courses for providers for provincial and district hospitals.

Improves the quality of skilled attendance by implementing international evidence-based standards and guidelines in national policy, curricula, and competency-based training

The MNH Program introduced competency-based training techniques to government-sponsored midwifery education by developing a 1-year curriculum, which emphasized clinical skills and practice. Essential skills as defined by the MCPC manual were included in this training. In 2003, 21 midwives graduated from this program.

The MNH Program also provided assistance and competency-based methodologies to a midwifery education program for a new cadre of midwives in Afghanistan: community midwives. The Program also provided critical assistance to convince policymakers to expand this program nationally, albeit by establishing clear national policies and guidelines for such expansion.

Scales up evidence-based safe motherhood practices, tools and approaches by collaborating with global and national partners

Afghanistan's education system for midwives incorporates proven interventions for saving the lives of women, such active management of the third stage of labor for the prevention of postpartum hemorrhage, use of manual vacuum aspiration (MVA) to treat bleeding complications in the first trimester, refocused antenatal care, and many others.

COUNTRY PROGRAM RESULTS

Justification for Program Presence

Afghanistan has one of the highest maternal mortality rates in the world, and certainly in Asia. A UNICEF/JHPIEGO national assessment of safe motherhood services and human resource needs (April/May 2002), and a Joint Donor Mission assessment of national healthcare needs (March 2002), recommended placing a high priority on training midwives and other skilled female healthcare providers to address the severe shortage of these crucial personnel accessible to the women of Afghanistan. In response, the Afghanistan Government's Ministry of Health (MOH), among related initiatives, is focusing attention on reviving and strengthening midwifery training nationally to increase the numbers of skilled female healthcare providers, particularly in rural and remote areas. UNICEF and USAID are both providing support to the MOH.

The midwifery preservice education initiative supports the Afghanistan Institute of Health Sciences (IHS), a division of the Ministry of Health charged with the education of nurses, midwives, and paramedical technicians. In addition to receiving support from UNICEF and USAID, the MNH Program works in collaboration with the Aga Khan Development Network (AKDN) and HealthNet International (HNI).

Strategic Statement

Strategic Objective: Strengthen health system capacity to deliver skilled maternal and newborn healthcare services

Intermediate Result 1: Strengthened and standardized course design and curricula for skilled maternal healthcare providers

Intermediate Result 2: Preservice and inservice training capacity strengthened to produce competent maternal and newborn healthcare providers

Program Approach

When the Taliban took control of Afghanistan in the mid-1990s, they halted all women's education, including the IHS training program for midwives (formerly known as Intermediate Medical Education Institute, or IMEI).

To address the most urgent needs, the MNH Program started working on national curricula and introducing competency-based training into two schools, which had already resumed teaching midwives. The first school, the Institute of Health Sciences campus in Kabul, had brought back a cohort of midwives who had interrupted their schooling 7 years earlier and needed to complete their final year of midwifery school. This school traditionally prepares hospital midwives who work primarily in urban areas, such as Kabul.

The second school was one developed by HealthNet International, a Dutch NGO, in Ghani Khel (near Jalalabad). This program focused on a new cadre of providers, now called community midwives. The students are drawn from communities and trained to return to their communities and serve neighboring families.

MNH Program staff consulted with IHS and HNI trainers on their draft course designs and found that these initial drafts emphasized classroom and academic areas (e.g., study of digestive systems and anatomy), with limited opportunities for interactive learning experiences in functioning clinics with proficient clinical instructors. Courses also lacked competency-based, adult learning approaches, and focused instead on lectures and one-way communication. The MNH Program worked to strengthen course designs, using as a standard the *Managing Complications in Pregnancy and Childbirth* (MCPC) and its complementary *Learning Resource Package*.

The MNH Program oriented IHS and HNI training staff to competency-based learning approaches, taught participatory learning methods through hands-on practical demonstrations, and guided trainers in designing lesson plans. These trainers were oriented to standardized clinical skills. In addition, hospitals where students practice were visited and supported to improve clinical and infection prevention practices, following the standards outlined in the MCPC manual.

The MNH Program produced a *Guide for Teachers*, which explains the learning approach, describes the learning and assessment methods, and briefly reviews three fundamental topics that relate to the package as a whole, i.e., clinical decision-making, interpersonal communication, and infection prevention. In preparing all course and learning materials, the MNH Program fully involved IHS and HNI training staff to enable them to learn these processes through participation.

The work with HNI quickly convinced MOH policymakers to establish community midwives as a new cadre of midwives, intended to work in rural and underserved areas. The MNH Program's contribution to policy discussions played a crucial role in this development.

Interventions and Results by Intermediate Result

Intermediate Result 1: Strengthened and standardized course design and curricula for skilled maternal healthcare providers

Redesigning Midwifery Education under the Institute of Health Sciences

The MNH Program produced a 12-module, competency-based learning package on clinical practices for normal, as well as complications of, pregnancy, labor, and childbirth. This package was implemented for the class of third year midwives completing their education. Twenty-one midwives graduated in August 2003. All but two midwives are currently working in five hospitals in and around Kabul. The remaining two have joined the IHS Kabul teaching staff.

Support to the Kabul midwifery school continues under USAID's bilateral program. Another policy decision supported by MNH Program staff was to modify the entire midwifery curriculum and reduce the program's length from 3 to 2 years. Under the bilateral, JHPIEGO has expanded and produced an entire 2-year curriculum, complete with clinical practicum schedules. In addition, efforts are currently underway to build the capacity of the Institute of Health Sciences to support the opening/re-opening of schools around the country and to monitor the quality of the education provided. This includes establishing clear roles and policies with respect to administering education programs in what is currently a very decentralized environment.

Establishing a New Cadre of Skilled Providers: Community Midwives

MNH/Afghanistan supported reviews and improvements to the curriculum for community midwives, including an ongoing process to produce a complete 18-month package of materials. A class of 25 community midwives trained in an 18-month program is nearing graduation under the HealthNet International program with MNH/Afghanistan technical assistance.

While HNI continues to train small groups of midwives in the area of Ghani Khel, MNH/Afghanistan co-organized a workshop to review the process to date and issue a guidance document for other nongovernmental organizations wishing to develop similar training programs. Pursuant to this effort, USAID's bilateral (REACH) has issued requests for grant applications to open similar schools around the country (focusing on REACH provinces). New schools will be recognized and supported by the IHS.

Intermediate Result 2: Preservice and inservice training capacity strengthened to produce competent maternal and newborn healthcare providers

In addition to the efforts to strengthen preservice education described above, the MNH Program worked closely with UNICEF as well as the Averting Maternal Death and Disability (AMDD) Program to establish inservice training capacity in Comprehensive Emergency Obstetric Care. To date, nearly 50 obstetrician/gynecologists, midwives, and anesthetists have been trained in emergency obstetric care in the country.

A core group of providers, including one obstetrician/gynecologist, an anesthetist, and two midwives, along with UNICEF staff, participated in sequential AMDD-funded courses in Dhaka, Bangladesh. Followup visits took place incountry. Subsequently, with MNH and UNICEF support, the following activities were conducted:

- The first group of trained providers has successfully conducted an emergency obstetric care course for providers from Kabul and Jalalabad.
- MNH/Afghanistan and UNICEF funded several followup visits to clinical sites to strengthen clinical and infection prevention practices.
- MNH/Afghanistan trained selected emergency obstetric care providers as clinical trainers. These trainers subsequently trained another cohort of providers from Mazar-I-Sharif, Heart, and Kandahar (funded by UNICEF).
- UNICEF sponsored an MNH/Afghanistan infection prevention workshop for healthcare workers from all hospitals involved in emergency obstetrics care training.

- Provincial providers underwent a clinical training skills course that will enable them to replicate emergency obstetric care training for other referral facilities in their respective regions.

Sustainability of Program Investments

Because the MNH Program's efforts in Afghanistan have seamlessly evolved into the Safe Motherhood component of REACH (also implemented by JHPIEGO) and continued to be supported by UNICEF, the program is by no means closing down. Under new funding, the scope of intervention has expanded. The Safe Motherhood component of REACH includes three major components:

1. Providing technical assistance and guidance for national standards and policy
2. Strengthening IHS midwifery education in additional schools around the country (including four schools in 2004)
3. Launching 10 community midwife education programs in underserved provinces

Under a UNICEF award, MNH Program staff continue to provide technical assistance to expand emergency obstetric services to all 32 provincial hospitals. This includes strengthening the training capacity of regional training centers of excellence.

Jointly, UNICEF and USAID's REACH program are currently exploring performance and quality improvement as well as hospital management initiatives.

Although the challenges of reaching all pregnant women and ensuring that a skilled provider attends each birth remain enormous, the Afghan MOH's development partners are making rapid strides toward this goal.

EGYPT 2003–2004

EXECUTIVE SUMMARY

The Maternal and Neonatal Health (MNH) Program began work on the Health Workforce Development (HWD) Project in April 2003. This 5-year, multifaceted project contributes directly to overall efforts to improve the university preservice medical and nursing education system in Egypt in accordance with the ambitious strategies set forth by the Egyptian government at the 2000 National Conference on Higher Education.

The primary expected result from the HWD project is a continuing supply of medical and nursing graduates who are able to provide high-quality healthcare services, achieved through appropriate learning approaches, increased focus on clinical skills training, and an improved student assessment system. This effort will be supported by the strengthening of Egyptian medical and nursing faculties committed to improving the medical and nursing education system in Egypt, and the expansion of international cooperation among key Egyptian stakeholders and international or US-based organizations working in the area of provider licensure and accreditation.

Several partners and collaborators play a role in the project. The Supreme Council of Universities (SCU) acts as an umbrella organization under which all coordination efforts fall. The individual nursing and medical schools are the implementers of most of the project activities. The project will also collaborate with the Egyptian Medical and Nursing Syndicates in their effort to establish licensing and accreditation systems. Finally, the Ministry of Health and Population will be the recipient of graduates of these improved and revitalized programs.

By the end of the 5-year project, in 2008, all 16 medical and 11 nursing schools in Egypt will be implementing a standardized approach for basic professional education. This result includes four key achievements:

- Nursing and medical faculty members will have strengthened teaching and clinical training skills, ensuring relevant and appropriate learning approaches.
- Revised national core curricula for obstetrics/gynecology, pediatrics and community medicine, and maternity/gynecologic, pediatric, and community health nursing will have been implemented in all 27 medical and nursing schools.
- The clinical practice training system will have been restructured, ensuring that medical and nursing students have appropriate and relevant skills to be able to meet the needs of clients in primary healthcare settings.
- A standardized student assessment system will have been designed, implemented, approved, and institutionalized.

In the first year of the HWD Project in Egypt, foundation building was initiated for 10 Phase One schools, including: conducting needs assessments; increasing partner collaboration; developing school committees to support project implementation; revising, finalizing, and nationalizing the core curricula for obstetrics/gynecology, pediatrics, and community medicine, and maternity/gynecologic, pediatric, and community health nursing; developing plans with the Phase One schools to strengthen skills development labs, clinical practice sites, and Educational

Development Centers (EDCs); and training the faculty working in the EDCs in teaching and clinical training skills, objective knowledge, and skills assessment methods.

The MNH Program Legacy

The HWD project in Egypt has reinforced the MNH Program's global legacy through its Program strategy and related activities.

Improves the quality of skilled attendance by implementing international evidence-based standards and guidelines in national policy, curricula and competency-based training

The Egyptian medical and nursing graduates are expected to serve as skilled attendants. The HWD project has ensured that the national core curriculum for obstetrics for medical schools and maternity and gynecologic nursing include evidence-based core competencies that equip the skilled attendant to care for the woman during pregnancy, labor and childbirth, and postpartum, as well as caring for the newborn. The revision of the curricula to include evidence-based core competencies relative to pregnancy, labor, childbirth, postpartum care, and care of the newborn contributes to improvement of quality of skilled attendance throughout the country.

COUNTRY PROGRAM RESULTS

Justification for Program Presence

The need for this project was dictated by the existing situation and challenges in Egyptian medical and nursing schools. These challenges include inconsistent and inaccurate curricula, weakness in competency-based training, non-standardized systems and standards for both teacher and student evaluations, and lack of access to information technologies to access the Internet or improve instructional methods and learning assessments. These challenges have created the opportunity for the HWD Project to effect change in these areas in Egypt.

Strategic Statement

The HWD Project established the following strategic plan and intermediate results:

Strategic Objective: Increased quality of healthcare services implemented through strengthening undergraduate and house officer preservice medical and nursing education systems in the areas of obstetrics/gynecology, pediatrics, and community medicine/health

Intermediate Result 1: Medical and nursing school graduates equipped with the essential evidence-based knowledge, skills, and attitudes needed to function effectively in a primary care setting

Intermediate Result 2: National core curricula in obstetrics/gynecology, pediatrics, and community medicine/health are established, accepted, and used by medical and nursing schools in Egypt

Intermediate Result 3: System for clinical and community training is strengthened and used by medical and nursing schools for undergraduates and interns/house officers in Egypt

Intermediate Result 4: Standardized student assessment systems are developed and used by medical and nursing schools in Egypt

Intermediate Result 5: National core curricula, strengthened clinical and community training systems, and a standardized assessment system are approved and institutionalized at the national level

Intermediate Result 6: Effective contribution to the establishment of systems of licensure and accreditation for medicine and nursing in Egypt

Program Approach

The HWD Project was designed to assist the Ministry of Higher Education (MOHE) to improve the basic knowledge and skills of medical and nursing graduates who are going to work at the Ministry of Health and Population (MOHP) and other healthcare sites through a process of broad-based strengthening of professional health education. The HWD Project works to enhance the capacity of graduates to deliver high-quality healthcare services by strengthening the undergraduate and house officer preservice medical and nursing education systems in the areas of obstetrics/gynecology, pediatrics, and community medicine/health.

The project will span 5 years and comprise the following three phases:

- *Foundation:* Preparation of the core curriculum development process (targeting the obstetrics/gynecology, pediatrics and community medicine, and maternity/ gynecologic, pediatric, and community health nursing core curricula) and implementation at 10 of the 27 medical and nursing schools in Egypt (Phase 1). Important to this phase are the key stakeholders who will be the change agents for national educational reform efforts. The process of clinical training and student assessment will be strengthened in the first 10 schools.
- *Expansion:* The best practices and lessons learned at Phase One schools will inform the implementation of the core curricula at the remaining schools (two additional phases). Champions from Phase One schools will be key to ensuring rapid uptake of the core curricula, improved clinical training, and student assessment methods at the remaining schools.
- *Consolidation:* All 27 nursing and medical schools will implement the revised approach to basic healthcare education. The revised curricula will be approved and institutionalized. Strengthened clinical training and standardized student assessment approaches will be approved and institutionalized at the national level.

The HWD Project uses a competency-based approach to strengthen preservice education and clinical training at medical and midwifery schools and their affiliated training sites. The HWD Project also incorporates JHPIEGO's humanistic approach to training, emphasizing the use of anatomic models to protect the rights of clients by ensuring the competency of those being trained before they begin practice with clients. Learning guides and checklists are being used to facilitate coaching and the transfer of clinical skills, and to standardize the evaluation of students' clinical skills. In addition, activities to strengthen teaching include the promotion of interactive and participatory methodologies such as small group work, case studies, role-plays, and demonstrations.

Interventions and Results by Intermediate Result

The project was initiated with the following two activities that contributed to the majority of intermediate results.

Needs Assessment of Egyptian Medical and Nursing Institutions

Technical experts from Egypt and JHPIEGO conducted a rapid assessment of eight medical and nursing institutions in May–June 2003 in the areas of obstetrics/gynecology, pediatrics, and community medicine/community health. Institutions visited included Cairo, Alexandria, Assuit, and Mansoura Universities. Menia University joined the project later in the process and was visited for an assessment in January 2004.

During the visits, data were obtained from faculty members, students, interns, and house officers. In addition, observations were made of classroom teaching and clinical service provision at each site. The assessment information was discussed with the SCU and USAID, shared with other stakeholders, and used as a foundation for development of the Strategic Action Plan (June 2003).

Result: The report entitled *Needs Assessment of Egyptian Medical and Nursing Preservice Institutions: Summary and Individual Faculty Results* summarizes the strengths and challenges of strengthening medical and nursing faculties and their educational programs.

Strategic and Action Planning

After completion of the rapid assessment, a framework was developed for the project for the following years. In June–July 2003, representatives from JHPIEGO, the MOHE, the SCU, USAID/Egypt, and George Washington University met to develop national strategic and action plans. The action plan details project activities through 2004, while the strategic plan outlines the project through 2008.

Intermediate Result 1: Medical and nursing school graduates equipped with the essential evidence-based knowledge, skills, and attitudes needed to function effectively in a primary care setting

Establishment of Project Implementation Committees and Strengthening of Quality Control and Educational Development Centers within Medical and Nursing Faculties

In response to the mandate to facilitate strengthening of curricula, clinical training, and student assessment, the HWD Project worked to ensure implementation of SCU-mandated mechanisms intended to enhance uniform quality of the educational programs of each participating faculty. These mechanisms include a Quality Control Committee (QCC) and an Educational Development Center (EDC) within each participating medical and nursing faculty. In addition, the HWD Project established a Project Implementation Committee (PIC) at each faculty to serve as the project's link to and among participating faculties, departments, and other committees and the EDCs. Collectively, the PIC, QCC, and EDC serve as links to the HWD Project and facilitate and/or monitor implementation of the project. JHPIEGO staff (in Cairo and Baltimore) provided ongoing technical support to the PIC, QCC, and EDC of each participating faculty.

In addition, to strengthen each EDC, JHPIEGO conducted two 2-week workshops for 82 participants from Phase One medical and nursing institutions in February and March 2004. The workshops focused on planning faculty-specific EDC activities; strengthening the teaching skills

of participants implementing EDC activities; and coordinating their work with the other responsible committees (PIC, QCC).

Results

- PIC established within each medical and nursing faculty participating in Phase One of the project.
- EDC and QCC initiated within each participating medical and nursing faculty, and activities identified to strengthen their ability to support project implementation.
- Teaching skills workshops conducted for members of the PIC, EDC, and QCC in February and March 2004.

Development of HWD Project Website

In order for faculty members to benefit from the resources developed through the HWD Project, an effective dissemination strategy is needed to ensure ongoing information sharing and access. JHPIEGO initiated work with the SCU to develop a website to provide faculty members with ongoing access to project materials such as standardized curricula, training system guidelines, student assessment guidelines and tools, and best practices. Through a website, the most up-to-date version of materials can be made available to faculty members throughout Egypt. Future development of this website will include access to reference materials and website links of interest to faculty members. This will encourage use of the site, including interactive features such as test banks, electronic discussion boards, and online learning modules. JHPIEGO will work with the SCU to identify appropriate features.

Intermediate Result 2: National core curricula in obstetrics/gynecology, pediatrics, and community medicine/health are established, accepted, and used by medical and nursing schools in Egypt

Curriculum Development

The foundation for effective teaching in undergraduate medical and nursing schools is a well-designed curriculum. To ensure that graduates are equipped with the knowledge, skills, and attitudes to function effectively in a primary care setting, it is essential that the obstetrics/gynecology, pediatrics, and community medicine/health curricula be current and reflect the needs of the people of Egypt.

In September 2003 in Cairo, the HWD Project team conducted a curriculum development workshop for medical and nursing sector curriculum committees. The purpose of the workshop was to develop national core curricula in obstetrics/gynecology, pediatrics, and community medicine, and maternity/gynecologic, pediatric, and community health nursing; to strengthen the system for clinical and community training; and to strengthen student assessment systems.

Results

- Standard format developed for the core curricula
- Essential “foundation” skills lists developed and “core competencies” for undergraduates and interns/house officers identified and integrated into the core curricula
- Guidelines developed for student assessment and the strengthening of clinical/ community training and integrated into core curricula

The SCU and Medical and Nursing Sector Committees are expected to approve the six core curricula and start implementation nationwide by September 2004. These evidence-based curricula, developed in a standard format, contain core knowledge, skills, and attitudes for obstetrics/gynecology, pediatrics, and community medicine/health nursing and medical schools.

Faculty Development

To effectively implement the new standard core curricula, faculty members working in the EDCs (described in IR 1) at the 10 Phase One schools attended a skills-based training course designed to prepare them to train other faculty members in obstetrics/gynecology, pediatrics, and community medicine/health departments in teaching skills, including clinical skill development and objective knowledge and skills assessment methods. They began holding teaching skills workshops for faculty soon after the initial training course, and used the individualized teaching skills materials to help faculty members strengthen their teaching skills.

Intermediate Result 3: System for clinical and community training is strengthened and used by medical and nursing schools for undergraduates and interns/house officers in Egypt

Development of Core Skills Competency

During the planning workshops, each of the Phase One schools designed a plan for the development and strengthening of their skills labs. The EDCs had already begun conducting a series of 3–5 day workshops on the use and maintenance of anatomic models, effective demonstration skills, feedback, and skill assessment for those who manage and maintain the skills labs. JHPIEGO provided assistance to the schools in equipping the skills labs with training models and equipment as a component of strengthening the skills labs.

Intermediate Result 4: Standardized student assessment systems are developed and used by medical and nursing schools in Egypt

Historically, student assessment in Egypt has focused on measuring student knowledge through written tests. It has since been recognized that, in order to provide high-quality health services, students also need to demonstrate appropriate skills and attitudes, which generally cannot be assessed through written and oral examinations. Instead, they must be demonstrated by the student and observed and reported by a qualified assessor.

Introduction of Faculty to the Objective Testing Methods

There is strong interest among faculty members and students to move from subjective assessment methods (e.g., essay test items, oral examinations) to more objective assessment methods (e.g., multiple-choice items) for assessing knowledge. The HWD Project team has begun working with the faculty members from the Phase One medical and nursing schools to develop computer banks of obstetrics/gynecology, pediatrics, and community medicine/health-related questions that are linked to the learning objectives. Teaching workshops (see IR 1) also provided a detailed introduction to the objective knowledge and skills assessment methods.

To assist schools in developing, administering, scoring, and analyzing student knowledge assessments, JHPIEGO provided each Phase One school with a set of up-to-date test development software and test scanning equipment.

Intermediate Result 5: National core curricula, strengthened clinical and community training systems, and standardized assessment system are approved and institutionalized at the national level

Vital elements related to introducing new curricula, clinical training strategies, and assessment systems into each of the nursing and medical schools are their approval and institutionalization at the national level. Curricula are expected to be approved by the SCU and Medical and Nursing Sector Committees and distributed to the schools nationwide in September 2004.

Intermediate Result 6: Effective contribution to the establishment of systems of licensure and accreditation for medicine and nursing in Egypt

In order to ensure that the project is in compliance with national and international standards for accreditation and licensure, the HWD Project team has begun to identify key linkages with appropriate accreditation and licensing bodies. Once identified, JHPIEGO will help the key stakeholders establish focused partnerships with US organizations working in the area of provider licensure and accreditation.

Sustainability of MNH/Egypt Program Investment

The 5-year strategic plan for the HWD Project outlines a plan to scale up initial efforts to all 16 medical facilities and 11 nursing facilities in the country. Thus, by the end of 2008, this project will have had a national-level impact on the knowledge and skills of graduating students.

By their nature, projects strengthening preservice education contribute greatly to a country's ability to sustain its health workforce. To further support sustainability interventions, the project is designed specifically to build capacity within the SCU and within each school to develop and revise teaching curricula, strengthen competency-based teaching skills for teachers, effectively manage clinical rotations, and test student skills. By assisting each school in establishing and maintaining project implementation committees, educational development centers, and quality control committees, the HWD Project will help the SCU and individual schools develop a continuous quality improvement cycle to ensure high-quality health education for physicians and nurses.

INDONESIA 1999–2004

EXECUTIVE SUMMARY

The MNH Program in Indonesia began in November 1999 in partnership with the Ministry of Health, Ministry for Women's Empowerment (Meneg-PP), National Family Planning Coordinating Board (BKKBN), Indonesian Society of Obstetricians and Gynecologists (POGI), Indonesian Midwifery Association (IBI), National Clinical Training Network (NCTN), local NGOs, and donor partners such as the WHO. The Program has been implemented primarily in the provinces of West Java and Banten, with a combined population of 42 million and an estimated 5,772 village midwives practicing in the provinces. The Program also carried out activities at the national level that help to strengthen maternal and newborn care throughout several provinces and the country, including preservice midwifery education, postabortion care as part of emergency obstetric care, coalition building of Pita Putih—the Indonesian affiliate of the global White Ribbon Alliance—behavior change communications for the SIAGA campaign to promote birth preparedness/complication readiness, and updating the national policy for Making Pregnancy Safer in collaboration with the WHO. MNH/Indonesia was implemented through a partnership of three primary agencies: JHPIEGO, Johns Hopkins University/Center for Communication Programs (JHU/CCP), and the Program for Appropriate Technology in Health (PATH).

The goal of the MNH Program in Indonesia was to contribute to maternal and neonatal survival by:

- Ensuring that the mother and baby receive care from a skilled provider during pregnancy, childbirth, and the postpartum period
- Encouraging all pregnant women and their families and communities to be prepared for birth and possible complications
- Expanding interventions to prevent and manage complications of bleeding in pregnancy and childbirth

The MNH/Indonesia Program strategy was closely linked with the WHO strategy for Making Pregnancy Safer that was adopted by the Ministry of Health as the national framework. The MNH/Indonesia strategy focused on a comprehensive approach to promoting skilled attendance that encompassed the community, community-based providers, healthcare facilities, NGOs, and institutional and government policymakers. Targeted interventions that can be scaled up nationally were implemented, including interventions in performance and quality improvement (PQI), behavior change, advocacy and policy (A&P), and monitoring and evaluation.

The MNH Program Legacy

Results of the MNH Program in Indonesia indicate that its program strategy and activities have contributed significantly to the MNH Program's global legacy.

Establishes and promotes international evidence-based standards for essential maternal and newborn care through partnerships

The MNH Program fostered national dialogue and partnership with the MOH, donors, and professional organizations in developing evidence-based materials for use by all partners to achieve national goals for maternal and neonatal health services. From 2001–2003, the MNH Program provided technical assistance to POGI and IBI to adapt the WHO's *Managing Complications in Pregnancy and Childbirth* manual to Indonesian conditions. In 2003, the MOH decreed that the result of this adaptation process, the *Practical Guidelines for Maternal and Neonatal Health*, would serve as the national standard operating procedures for maternal and neonatal healthcare nationwide. With MNH Program funds combined with private sector support of Johnson & Johnson, 52,000 copies of these national guidelines were printed. Activities were conducted by MNH Regional Experts to disseminate the guidelines in every province in Indonesia. As a result of these efforts, 100 percent of midwifery students, medical students, and ob/gyn residents have access to the Practical Guidelines. Approximately 87 percent of ob/gyn doctors and 28 percent of midwives nationwide have a copy of the Practical Guidelines. In light of the closeout of the MNH Program, Johnson & Johnson has committed funds to print an additional 20,000 copies of the guidelines to ensure that more midwives obtain the document.

Due to the success of the adaptation and dissemination process of the Practical Guidelines, the MNH Program provided technical assistance and support to professional organizations to adapt the WHO's *Managing Newborn Problems* and to translate the JHPIEGO manual *Infection Prevention Guidelines for Healthcare Facilities with Limited Resources*. These manuals have been endorsed by the MOH and professional organizations as national guidelines for newborn health and infection prevention. MNH/Indonesia adapted the MNH Program Malaria Resource Package (MRP) in cooperation with the MOH Directorate General for Communicable Diseases Control and Environmental Health, WHO/Jakarta, the IAMI (Inisiatif Anti-Malaria Indonesia), and the US Naval Medical Research Unit (NAMRU-2), Jakarta, Indonesia. A Bahasa Indonesia translation of the MNH *Malaria during Pregnancy* participant handbook (Buku Pegangan Peserta), instructor guide book (Buku Fasilitator), and reference guide for healthcare providers (Acuan untuk Tenaga Kesehatan) was created.

Improves the quality of and access to skilled attendance by implementing international evidence-based standards and guidelines in national policy, curricula and competency based-training

The cornerstone of the PQI approach was to develop high-quality service delivery and training sites that could serve as models for scaling up. Clinical knowledge and skills of midwifery staff, obstetrics residents, and specialists were upgraded and standardized at hospitals and clinics used for inservice training and precepting students. The percentage of trained providers practicing specified skills increased from 35 percent in 2001 to 85 percent in 2003 in sites supported by the MNH Program. To decrease the need for eventual retraining of graduates, the Program upgraded the classroom curriculum and clinical practice for midwifery students in four areas of competency: normal antenatal, intrapartum, postpartum (including breastfeeding and family planning), and newborn care. As a result of these interventions, three classroom training sites and 12 clinical sites were established as high-quality service delivery and training sites for inservice and preservice training in normal delivery care (NDC). In addition, three classroom training sites with 48 clinical sites were established as high-quality service delivery and training system for managing bleeding in early pregnancy.

Five Indonesian ob/gyns and four midwives participated in the global MNH Program Regional Expert Development Initiative. In addition to their regular service delivery responsibilities, five of the regional experts have provided considerable technical leadership in introducing evidence-

based practices in their sites and have been actively serving as resource people for national policymaking and dissemination of standards. Three of the regional experts have provided technical assistance outside of Indonesia to improve skilled attendance through clinical site strengthening and inservice training.

Generates shared responsibility and coordinated action among policymakers, health facilities, providers, communities, families and women through Birth Preparedness/Complication Readiness (BP/CR)

Community involvement in health has always been a foundation of MOH programs in Indonesia. Working through the emerging civil society and NGOs, the behavior change interventions built on this foundation to promote shared responsibility for the well-being of the pregnant, laboring, and postpartum woman. A participatory, bottom-up approach was implemented to prepare communities, families, and women for birth and potential complications. Birth preparedness was also a familiar concept to Indonesians, and it is embedded in the concept of *SIAGA*, meaning "alert" or "ready." Building on this concept, the MNH Program established the Desa Siaga ("Alert Village") system and worked with 55 villages to build community awareness and responsiveness to BP/CR. By the end of the MNH Program, all districts in West Java province had adopted the BP/CR framework.

Scales up evidence-based safe motherhood practices, tools and approaches by collaborating with global and national partners

MNH tools and approaches have been so effective in changing clinical practices and behaviors that they have been readily adopted and implemented by local governments, professional organizations, and other donors. AusAid, World Bank, UNICEF, Save the Children, Plan International, and local health offices are replicating basic childbirth care training and behavior change initiatives throughout Indonesia. As many as 87 percent (27 of 31) of provinces nationwide have documented using MNH tools and approaches[15]. Every province and approximately 60 percent of all districts in Indonesia learned about replicating MNH tools and approaches during the mini-university dissemination activity. During the SARS outbreak, WHO/Indonesia looked to the MNH Program as the leading expert in infection prevention. MNH/Indonesia carried out training for hospital staff at the designated national SARS hospital in Jakarta using the Indonesian translation of the reference manual *Infection Prevention Guidelines for Healthcare Facilities with Limited Resources*. In neighboring East Timor, the WHO and Family Health International have not only adopted MNH Program tools and approaches, but they have been using trainers developed under the MNH Program to strengthen services and training in the new country.

[15] Indonesia has a population of 210 million within 28 provinces (propinsi), two special regions* (D.I. Aceh and D.I. Yogyakarta = Daerah Istimewa), and one special capital city district** (DKI Jakarta = Daerah Khusus Ibukota). Indonesia has an estimated population of more than 211 million (IDHS 2003), making it the fourth most populous country in the world. In the western region of Java, the total population is approximately 42 million, including West Java (32 million). The adjacent province, Banten (10 million), has the same population found in the western states of California, Oregon, and Washington. West Java is in close proximity to DKI Jakarta, which has an estimated population of 10.8 million.

Builds the evidence base for social and behavior change interventions that generate informed demand and collective action for safe motherhood

The SIAGA campaign was promoted through the mass media campaign as part of the Mother Friendly Movement (Gerakan Sayang Ibu/GSI) and benefited from the political support of the White Ribbon Alliance, as well as strong support from formal and informal community leaders (Kepala Desa/Tomas), midwives, and other community members. The initial focus of SIAGA was on husbands (Suami SIAGA) to encourage them to reduce the three common delays to receiving appropriate healthcare: delays in seeking care during an obstetric emergency, delays reaching a healthcare facility, and delays receiving care in the presence of a healthcare provider.[16] The MNH Program expanded the SIAGA concept to include communities (Warga SIAGA), midwives (Bidan SIAGA), and villages (Desa SIAGA). In West Java, the SIAGA campaign became a unifying concept exemplifying shared responsibility within communities (Gotong Royong).

The success of the Desa SIAGA Campaign was evaluated by comparing the baseline and followup surveys conducted in six districts of West Java, consisting of three intervention districts: Kuningan, Cirebon, and City of Cirebon; and three comparison districts: City of Bandung, Sukabumi, Purvakarta.[17] Preliminary results of a comparative analysis between a sample of women, men, midwives, and community leaders of 3,364 (baseline) and 2,925 (endline) revealed that women and men who participated with the Desa SIAGA campaign were significantly more likely to have given birth with a bidan and much less likely to have given birth with a traditional birth attendant (TBA/dukun) in comparison to those not exposed to the Desa SIAGA campaign.

Community members exposed to Desa SIAGA were significantly more knowledgeable about birth preparedness/complication readiness (BP/CR) schemes and were more likely to have used these schemes in preparation for and during childbirth. Eighty-five percent of recently delivered women from MNH Program village interventions said that their childbirth was attended by a skilled provider, in comparison to the figure of 49 percent in control villages. The increase in skilled providers can be directly attributed to findings that indicate that 78 percent of key informants from an MNH/Indonesia village intervention said that transport exists in their village to help women and newborn babies access skilled care at the time of labor or complications, in comparison to the figure of 29 percent in control villages. Approximately 69 percent of key informants from an MNH/Indonesia village intervention said that a funding mechanism is in place to help women and babies pay for skilled care, in comparison to the figure of 21 percent in control villages. Women (Istri/wives) and men (Suami/husband) respondents exposed to Desa SIAGA displayed higher levels of knowledge of danger signs in comparison to their unexposed counterparts. For example, approximately 31 percent of the women respondents who were exposed to the SIAGA campaign reported severe vaginal bleeding to be a danger sign during childbirth. In comparison, 12 percent of the unexposed women were aware of severe vaginal bleeding as a danger sign at childbirth.

[16] Thaddeus S and D Maine. 1994. Too far to walk: Maternal mortality in context. *Social Science and Medicine* 38(8): 91–111.

[17] Preliminary findings from the end of project evaluation from draft JHU-CCP Country Evaluation Report Measuring the Effectiveness of the "SIAGA" Campaign (7 April 2004).

COUNTRY PROGRAM RESULTS

Justification for Program Presence

Since 1991, reducing maternal and neonatal mortality has been a priority for Indonesia's Ministry of Health (MOH). When the MNH Program began, Indonesia's maternal mortality rate (MMR) of 373/100,000 live births and infant mortality rate (IMR) of 35/1,000 live births were among the highest in Southeast Asia. In 1997, only 43 percent of births nationwide were attended by a skilled provider. Between 4.5 and 5 million women give birth in Indonesia each year. Approximately 18,000 of these women died as a result of pregnancy and childbirth. Most of these deaths—up to 46 percent—were due to postpartum hemorrhage (PPH). Another 10 percent of deaths were due to complications of abortion.

In order to help the MOH reach its goals in reducing maternal and neonatal mortality, USAID/Indonesia asked the MNH Program to provide technical assistance. The Indonesia program has been the MNH Program's largest program globally. The province of West Java was selected by USAID and MOH as the target province, because it includes approximately 20 percent of the Indonesian population, and its percentage of births attended by skilled providers (30 percent) was lower than the national average of 43 percent.

Strategic Statement

MNH/Indonesia established the following strategic objective and intermediate results:

Strategic Objective: MNH/Indonesia works to promote maternal and neonatal survival by supporting the MOH's efforts to increase skill attendance at birth

Intermediate Result 1: Policy environment for reproductive and child health improved

Intermediate Result 2: Health service systems strengthened to improve access, quality and sustainability

Intermediate Result 3: Women, families and communities empowered to take responsibility for improving health

Program Approach

MNH/Indonesia implemented a comprehensive approach to promoting skilled attendance at birth. Through its PQI component, the MNH Program worked to ensure that midwives and physicians could deliver high-quality, evidence-based care in normal pregnancy, childbirth, and the postpartum period, as well as identify and manage complications. To encourage women and families to seek the services of a skilled provider, the behavior change interventions (BCI) component focused on mobilizing communities, families, and individuals to be prepared for birth and the postpartum period and to be ready to identify and respond to potential complications. The Advocacy and Policy component (APPS) supported both the PQI and BCI components by ensuring that national guidelines reflected evidence-based standards, and by generating commitment and financial support for community mobilization. The fourth component of the MNH program, Monitoring, Evaluation, and Operations Research (MEOR) monitored progress

toward meeting the strategic objective and intermediate results, as well as evaluated the outcomes of PQI, BCI, and APPS interventions.

The MNH/Indonesia Program implemented the majority of its PQI and BCI interventions in three target districts of West Java: Cirebon District, Cirebon City, and Kuningan District. Bandung District and Bandung City were also heavily involved in the PQI activities, because they are home to the Provincial Health Office that has administrative oversight of the three target districts. Strengthening of preservice education occurred at a national level, though the most intensive activities were implemented in midwifery schools in West Java. Building on existing activities of the MOH with EngenderHealth, activities to improve the management of bleeding in early pregnancy (PAC) were initially implemented in the six provinces of North Sumatra, South Sumatra, DKI Jakarta, West Java, South Kalimantan, and Nusa Tenggara Barat. In 2003, a decision was made within the MNH Program to focus PAC activities in the two provinces that had most successfully implemented change: South Sumatra and Nusa Tenggara Barat. On a national level, national clinical standards were developed and disseminated, and the MNH Program was an important player in the adoption and implementation of the WHO Making Pregnancy Safer initiative. Coalition building of Pita Putih, the Indonesian affiliate of the global White Ribbon Alliance, also occurred at the national level.

Recognizing the need to explore effective approaches to reduce postpartum hemorrhage in the absence of a skilled provider, the MNH Program collaborated with the MOH, POGI, and the WHO collaborating center to test the safety, acceptability, feasibility, and program effectiveness of community distribution of misoprostol to reduce postpartum hemorrhage. Although the study was implemented in West Java, the positive findings of the study led the MOH to declare that this approach should be scaled up nationally. The minister of health also issued a resolution incorporating prevention of PPH into the national health strategy. The resolution to scale up this successful prevention of PPH intervention was a direct result of the study.

Interventions and Results by Intermediate Result

Strategic Objective: MNH/Indonesia works to promote maternal and neonatal survival by supporting the MOH's efforts to increase skill attendance at birth

As noted above, the primary objective of the MNH Program was to contribute to the MOH's effort to increase skilled attendance at birth. In the MNH targets areas in West Java, data from the district health office concluded that the percentage of births attended by skilled providers rose from 66 percent in 1999 to 72 percent in 2002. In the same time period, district health data also indicated a decrease in the maternal mortality ratio from 452/100,000 live births in 1999 to 358/100,000 live births in 2002. At a national level, the 2003 Indonesian Demographic and Health Survey (IDHS) indicated an increase in the percentage of births attended by skilled providers, from 43 percent in 1997 to 66 percent in 2003. The IDHS also reported a decrease in the MMR from 373/100,000 live births in 1997 to 307/100,000 live births in 2003.

Intermediate Result 1: Policy environment for reproductive and child health improved

Throughout the 5 years of the MNH Program in Indonesia, MNH was a leader in promoting, developing, and disseminating evidence-based guidelines to be used as national standards of practice. The success of these initiatives can be attributed to efforts to gain broad stakeholder involvement and ownership in the development and dissemination process. Over the course of

the MNH Program, three significant guidelines were developed and endorsed as national standards: *Practical Guidelines for Maternal and Neonatal Health Services, Managing Newborn Complications at the Level of a District Hospital,* and *Infection Prevention Guidelines for Healthcare Facilities with Limited Resources.* In addition, training packages for Normal Delivery Care, Postabortion Care, and Malaria in Pregnancy were endorsed by the MOH. Normal Delivery Care and Postabortion Care training packages have been printed with MOH funds. Funds are in the 2004–2005 MOH budget to print the Malaria in Pregnancy training package, following a field test by partners.

Of the guidelines that were produced, the *Practical Guidelines for Maternal and Neonatal Health Services* were the most widely disseminated. Using MNH funds, 50,000 copies of the guidelines were printed. To meet the large demand for the guidelines, Johnson & Johnson provided funds to print an additional 20,000 copies. In order to ensure that midwives and doctors were familiar with the evidence-based practices included in the guidelines, a broad dissemination strategy was carried out in 21 of 31 provinces in Indonesia. In each of the provinces, a provincial team was prepared by the MNH Regional Experts to conduct 2-day knowledge updates at the district level. District health funds (including donor funds) were used to conduct the district-level dissemination. In addition, dissemination activities were conducted that included representatives from all medical and midwifery schools in the country. As a result of these combined dissemination activities, 100 percent of medical students, midwifery students, and ob/gyn residents have access to the guidelines. National surveys by MNH indicate that approximately 87 percent of all ob/gyns and 28 percent of all midwives in the country have a copy of the guidelines. In light of the success of the dissemination of the Practical Guidelines, the STARH program underwent a similar process to develop and disseminate national guidelines for contraceptive services.

MNH advocacy efforts through the PQI and BCI components led to increases in budget allocations for maternal and neonatal health interventions. Examples include the following:

- A 50 million rupiah revolving fund in Kuningan was established to pay for treatment of emergency complications for poor families.
- According to the District Health offices, Kota Cirebon increased their budget allocated for maternal health from 8 percent to 14 percent in 2002, and up to 18 percent in 2004.
- Funds amounting to 500 million rupiah were allocated by MOH to begin rollout of community distribution of misoprostol for the prevention of PPH.
- Local budget resources were used to pay for clinical and counseling training.
- About 450 participants attended the MNH Program's end of program "mini-university" using funds from their district health offices, other donors, or personal resources.

Two additional significant policy issues were achieved during the MNH Program. In preservice education, MNH/Indonesia's approach to strengthening the clinical practice component of the midwifery curriculum was recommended by the MOH for implementation in all nursing and midwifery schools in the country. The MOH has included discussion of the approach in all national preservice meetings since January 2003. To reduce PPH in births that are not attended by skilled providers, the MOH has enthusiastically called for national rollout of community-based distribution of misoprostol (described in IR 2 below). Policymakers in Provincial and District Health offices have allocated funds to support the roll-out of this approach to reducing PPH.

MNH/Indonesia served as one of the leading partners in the MOH initiative to reduce malaria during pregnancy. Malaria remains one of the major infectious diseases in large parts of Indonesia, with approximately 1.5 million cases detected annually. Malaria has re-emerged as a threat in areas of previous effective control (WHO 2003). The MOH has developed a strategic plan, with the WHO/SEARO Roll-Back Malaria Guidelines being used as a reference document for adaptation in Indonesia. Three pilot districts with high case incidence and preponderance of *Plasmodium falciparum* were selected for the implementation of WHO Roll Back Malaria Initiative (RBM), including Cilacap (Central Java Province), West Lombok (West Nusa Tenggara Province), and Bintan Island (Riau Province). As noted above, the MOH will use the MNH Program's Indonesian adaptation of the training package *Malaria during Pregnancy* in future trainings.

Intermediate Result 2: Health service systems strengthened to improve access, quality and sustainability

To strengthen health service systems, MNH/Indonesia worked to build capacity within existing inservice and preservice training systems. MNH/Indonesia efforts in inservice training focused on the development of high-quality services and training for NDC and PAC. The approach was aimed at ensuring that hospitals and birthing centers were offering high-quality maternal and newborn health services, including sound clinical decision-making and strong infection prevention practices. For NDC training, the approach also focused on the development of private midwifery practices as training sites, instead of relying on traditional teaching hospitals. Once the sites demonstrated high-quality service delivery, they were incorporated into the National Clinical Training Network (NCTN) as clinical training sites.

The NCTN is the designated organization through which all clinical training in maternal and newborn health is conducted. This training network is comprised of ob/gyn, midwife, and pediatrician trainers who are trained to conduct standardized courses. As a result of MNH/Indonesia-led efforts, NCTN training centers in West Java, Central Java, and East Java now have the capacity to carry out training in NDC; training centers in six provinces have the capacity to carry out training in PAC. As a result of national scale-up of this MNH Program approach by other donors and partners, NDC training is now being conducted by 38 training centers nationwide.

In addition to monitoring the quality of services and training in the training sites, the MNH Program monitored the percentage of trained providers who were using the partograph and practicing active management of the third stage of labor. Monitoring in 2003 indicated that 85 percent of trained providers were using the partograph and practicing active management of third stage of labor with all clients. A 2003 study that compared skills of NDC-trained midwives with non-NDC trained midwives indicated that 80 percent of NDC trained midwives had retained their skills in active management of third stage of labor among a randomly selected, representative sample of NDC trained midwives 13 months after the training occurred.

MNH Program approaches in preservice education strengthened the classroom and clinical teaching at midwifery schools nationwide. Faculty in 65 midwifery schools were trained to use new, standardized curricular materials that were distributed to 125 midwifery schools nationwide. Clinical instructors at two schools were identified and trained, and the system for rotation of students was modified to ensure high-quality clinical practice. The MNH Program's approach to strengthening clinical practice and supervision has been embraced by the MOH as a

national standard for preservice education and is being scaled up nationwide by the Ministry, individual midwifery schools, and other donors such as AusAid.

To reduce PPH in areas where skilled providers do not attend a large proportion of births, the MNH Program demonstrated the Safety, Acceptability, Feasibility, and Program Effectiveness (SAFE) of the postpartum use of oral misoprostol through a recent demonstration project. The SAFE study was a community-based intervention offering information and counseling by a community volunteer during home visits to pregnant women at time of first contact and again at 8 months; the volunteer provided misoprostol when a woman was 8 months pregnant. Study results showed that 92 percent women attended by unskilled providers used misoprostol immediately after birth and that women in the study area were 45 percent less likely to need an emergency referral for PPH. In addition, it demonstrated that a PPH prevention program can be successfully implemented in Indonesia through the existing network of community volunteers trained as peer-educators.

Intermediate Result 3: Women, families, and communities empowered to take responsibility for improving health

The Desa Siaga ("Alert Village") approach for BP/CR in the community sought to increase community awareness and demand for skilled providers. Community involvement has been a cornerstone of MOH programs for the past 32 years, and this MNH Program approach expanded on MOH efforts. Desa Siaga was a participatory, bottom-up approach that involved the emerging civil society and NGOs to create a district BP/CR system (pregnancy notification to a skilled provider, emergency fund schemes, transportation, and blood donation mechanisms). Desa SIAGA depended on participatory and facilitative techniques for problem solving, such as Identifikasi Masyarakat Partisipatip (IMP), which is based on participatory rural appraisal. Trained organizers used IMP to identify traditional ways of collecting funds, to clarify values and issues related to blood and childbirth, to guide the establishment of transportation systems, and to identify stakeholders who needed to be involved and resources available. Desa Siaga also relied on mass media and community mobilization activities to build community awareness of birth preparedness and complication readiness. Not only did this approach take hold in all 55 villages in MNH Program target areas (with district governments allocating long-term funds), but it was replicated by other donors in 10 provinces.

At the heart of the Desa Siaga system was the skilled provider, the Bidan Siaga ("Alert Midwife"). Within the BCI component, interventions were conducted to strengthen the skills of the midwife in the village and to encourage the community to seek her services. Each of the Bidan Siaga underwent training in NDC and interpersonal communication and counseling skills. To reinforce new skills and knowledge, radio vignettes were developed and broadcast on local radio, and groups of midwives gathered on a bi-weekly basis to discuss the content of the vignettes with a trained midwife facilitator. To promote the midwife as an important provider of services, mass campaigns were developed and aired.

The key findings from the BCI end of project evaluation indicated that the SIAGA campaign had a positive impact on the intended audiences.

- The SIAGA campaign was able to build upon traditional cultural practices in Indonesia with the unifying concept of "SIAGA" embodying the notion of "shared responsibility" central to the Indonesian value of "community help" (gotong royong) and translate this value into

communities coming together to save maternal and neonatal lives. For example, about 63 percent of women who were exposed to the campaign acknowledged using a community fund, such as Dasolin and TABULIN, for emergency during childbirth, in comparison to 37 percent of women from unexposed comparison communities.

- Overall, women (67 percent) who were exposed to the SIAGA campaign reported using a skilled provider for childbirth more often when compared to women (44 percent) who were not exposed to the SIAGA campaign. The greater use of skilled attendants among those exposed to the SIAGA campaign resulted in a less frequent use of TBAs (dukun), where 27 percent of exposed women reported using a TBA compared to 54 percent of women unexposed to the SIAGA campaign.
- Knowledge of specific danger signs during pregnancy, childbirth, and the postpartum period was found to be higher among respondents exposed to the SIAGA campaign, with 41 percent of the women who were exposed to the SIAGA campaign being aware of "bleeding" as a danger sign during pregnancy in comparison to 16 percent of women unexposed to the SIAGA campaign.
- Midwives (bidan) played a critical role in creating and executing the SIAGA initiative. In addition to supporting the clinical aspects of the program, they also served as resource persons in the community. Because most births occur out of a facility in the developing world, a skilled attendant at childbirth increases chances of survival for mothers and babies.

In addition to Desa Siaga, MNH/Indonesia assisted civil society and NGOs to become branches of the Indonesian White Ribbon Alliance. The White Ribbon Alliance is a critical tool for promoting maternal and newborn survival and developing interlinking efforts between the government, community groups, and religious leaders. In West Java, for example, they have been instrumental in creating community financing funds to pay for the cost of management of complications.

One result of the MNH Program particularly highlights the importance of addressing supply and demand issues together. In Kuningan and Cirebon, each of the private midwifery practices that serves as a training site has experienced a 50–80 percent increase in caseloads. The midwives believe that this increase is due to an increase in the demand for skilled providers at birth, as well as the "word spreading" that their clinics offer high-quality clinical services.

Sustainability of MNH/Indonesia Program Investment

District, provincial, and national health officials are firmly committed to promoting maternal and newborn survival. Working within this favorable environment, the MNH Program's strategic approach was to collaborate with government health officials, professional organizations, community organizations, community leaders, and other donors to develop appropriate, highly relevant tools and approaches that could be readily replicated by health authorities, providers, and communities.

As the MNH Program closes out in Indonesia, significant results toward sustainability have been achieved. The MOH and professional organizations have endorsed MNH Program tools and approaches as national standards and best practices in promoting maternal and newborn survival. Several examples of sustainability include the following:

- **NDC Training**. The MOH, POGI, and IBI have all endorsed the principles of NDC as the national standard of practice for all providers. Many IBI provincial chapters have also stated that any midwife who wishes to open a private practice must undergo NDC training. NDC principles and skills have been fully incorporated into preservice education. The result of these achievements is that donors are not only paying for NDC training, but they are following MNH Program models to develop NDC training capacity in provinces where the Program does not work. Examples include AusAid, World Bank, UNICEF, Save the Children, and Plan International. Midwives have demonstrated willingness to pay for NDC training, further promoting sustainability.
- **Preservice Clinical Practice Strengthening**. The approach for strengthening preservice clinical practice that was developed by MNH has been embraced by the MOH. The MOH has fully funded national meetings to disseminate the new model to all midwifery schools. A core team of faculty members has been developed to assist other schools to implement the new approach.
- **Desa Siaga ("Alert Village")**. The Desa Siaga approach has also been embraced by the MOH and is being implemented through communities with local government support. The achievements of this approach in West Java have encouraged other donors to develop the same systems in other provinces and districts. Within the Desa Siaga, the Bidan Siaga (Alert Midwife) plays a key role as the skilled provider. The MOH and other partners and donors have endorsed and funded the preparation of this Bidan Siaga, including MNH approaches for NDC training, interpersonal communication skills, and the use of radio vignettes to promote improved clinical and counseling practices.

Positive results of MNH/Indonesia activities in target districts in West Java generated great interest on the part of the remaining West Java districts to implement similar tools and approaches. To that end, MNH/Indonesia also conducted a 3-day advocacy activity to provide district health offices and other partners in all of West Java with the "how-to" information described above. During the final day of the activity, districts developed workplans to implement selected MNH Program tools and approaches that fit within their budget allocations. Commitments included the following:

- Development of additional NDC District Training Centers in four districts
- Financial support from all districts for midwives to obtain NDC training
- Plans to develop Desa Siaga in all districts
- Support to implement misoprostol counseling and distribution in seven districts
- Ten districts to support training for midwives on improving provider-client communication
- Six districts to utilize the radio vignettes and develop group discussion facilitators

To ensure scale-up and sustainability throughout Indonesia, the MNH Program conducted a large, national-scale dissemination activity entitled, "Mini-University: Best Practices and New Approaches in Maternal and Neonatal Health." This interactive 5-day activity provided a total of 450 representatives from each province and 60 percent of districts with hands-on, practical information on how to scale-up effective MNH Program tools and approaches. Other partners working in maternal and newborn health who also developed innovative tools and approaches were invited to present their achievements. Technical sessions were conducted as concurrent sessions in small break-out rooms, and each session was offered several times over the course of the 5-day activity. Counterparts presented the vast majority of the sessions. At the completion of each technical session, participants received a "how-to" guide and CD-ROMs with all supporting

tools and materials so that they may begin to scale up activities in their own districts. As a positive sign of sustainability and commitment to promoting maternal and newborn health, it should be noted that the 450 participants all paid for their transportation and per diem through district health funds, other donor funds, or personal funds.

NEPAL 1999–2003

EXECUTIVE SUMMARY

The Maternal and Neonatal Health (MNH) Program in Nepal worked in collaboration with government partners, international nongovernmental organizations (INGOs) and nongovernmental organizations (NGOs) to improve maternal and newborn survival by supporting the government's efforts to promote the adoption of appropriate maternal and neonatal health behaviors and to increase the access to and use of quality maternal and neonatal health services. The work of the MNH Program in Nepal has been based on a network of national- and local-level partnerships, whereby MNH/Nepal has sought to complement and build upon the work of other safe motherhood stakeholders, collaborating with them to develop tools and approaches that can be adopted and scaled up by the government and other agencies as part of the national safe motherhood program. MNH/Nepal represents a partnership of three primary agencies (JHPIEGO, the Centre for Development and Population Activities [CEDPA], and the Johns Hopkins University Center for Communication Programs [JHU/CCP]). Working together, these agencies work toward:

- A more focused and coordinated policy environment for safe motherhood;
- Improved quality of maternal and neonatal healthcare services in facilities and communities throughout the country; and
- The adoption of appropriate maternal and neonatal health behaviors, including increased access to and demand for quality maternal and neonatal health services.

At the **policy level**, the main focus of the Program's work has been the Safe Motherhood Sub Committee (SMSC), a subcommittee of the national Reproductive Health Coordination Committee (RHCC), which has contributed substantially to raising the profile of the national safe motherhood agenda, and laying the foundations of national policies and strategies. The SMSC was initiated in 2000 by MNH/Nepal, following a recommendation in the *Review Recommendations and Action Plan* (RRAP) report, which highlighted the need for increased coordination among safe motherhood projects at the national level. With MNH/Nepal support, the SMSC has evolved into an effective government owned and led coordinating body, which is viewed by all stakeholders as an important source for information exchange and policy dialogue for safe motherhood. The SMSC also evolved into a policy-level advisory body, and members feel this role should be further developed to enable the committee to fulfill its true potential. In less than 3 years, the SMSC has developed and agreed to the terms of reference, a workable structure, and a workplan, and can already boast a number of significant accomplishments, including contributions to the development of the *National Safe Motherhood Plan (2002-2017)*, the *National Safe Motherhood Training Strategy*, the *National IEC/BCC (Information Education Communication/Behavior Change Communication) Safe Motherhood Strategy*, and provision of recommendations to assist with implementation of the health section of the government's Tenth Five Year Development Plan. Since 2000, MNH/Nepal has also provided support to the Safe Motherhood Network (SMN), a national-level coalition of more than 80 organizations, including NGOs, donors, INGOs, and others, to develop district chapters that focus on advocacy for safe motherhood issues. The White Ribbon Alliance (WRA) established by SMN members is a key link between SMN and the Global MNH Program.

MNH/Nepal has made important contributions to improving the **quality of midwifery services**, according to nationally identified priorities highlighted in the *National Safe Motherhood Plan (2002-2017)* and the *National Safe Motherhood Training Strategy*. To strengthen inservice training for midwifery service providers, MNH/Nepal provided technical input on the development of standardized national training curricula for auxiliary nurse midwives (ANMs) and maternal and child health workers (MCHWs), promoting the adoption of evidence-based practices in healthcare facilities. Following this effort, two inservice training sites (Patan Hospital Birthing Center and Koshi Zonal Hospital) responsible for training ANMs and staff nurses (SNs) based at district hospitals were strengthened as model training sites, based on the use of a competency-based training approach and standardization of hospital protocols, and through working with the support of local safe motherhood stakeholders. Followup visits showed that trainees not only retained their knowledge and skills well, but had also been able to implement improved practices at their own facilities, sharing their new knowledge and skills with colleagues. In a further cascade effect, some of the trainees were involved in training MCHWs at their facilities, and were able to further promote their use of evidence-based practices at community level facilities or when attending home births. There is evidence that the competency-based approach to training is spreading from the work at these two sites into preservice teaching, through contact between staff at the different training sites and facilities. The value of the training site development is acknowledged by partners, who feel that it complements their work at the district level, and would like to incorporate the development of other training sites into their programs, using the same model.

Complementing the work at the national policy level and in quality of care, MNH/Nepal has addressed **access and demand** issues through the SUMATA (Care, Share, Prepare) initiative including the *Jeevan Suraksha* (Birth Preparedness Package) developed in collaboration with safe motherhood partners, and based on the *National IEC/BCC Safe Motherhood Strategy*. The focus of these initiatives has been on reaching women and their families with simple messages that address the complex set of social and logistical issues that contribute to the very high maternal and newborn mortality rates in Nepal. These include geographical challenges, the low status of women, and adherence to established cultural practices (including home births often unaccompanied by skilled providers), all of which contribute to lack of adequate care for women during pregnancy and childbirth and delays in accessing emergency care. The messages were collaboratively developed through a series of national-level workshops with district-level participation, and have become widely disseminated and adopted. Safe motherhood was officially acknowledged as a social, as well as medical, issue, and particular emphasis was placed on reaching husbands and mothers-in-law, as the key decision-makers in women's health matters.

Using a multi-media and social mobilization approach, SUMATA encourages families to care for the woman during her pregnancy, to share her work, and to contribute to preparations for the birth. The printed materials (posters, billboards, banners, and lampshades) and radio productions developed have been widely disseminated and adopted by numerous other agencies to support their program work. The government has stated that one of the posters (highlighting danger signs during pregnancy) should be disseminated to all 75 districts of the country. The *Jeevan Suraksha* is a social mobilization tool, implemented through the district health services to encourage families and communities to prepare for the birth. The *Jeevan Suraksha* directly links with the MNH/Nepal quality-of-services work, as the community mobilizers use the materials to counsel pregnant women and their families to be aware of and use local health services, particularly ANC (antenatal care) and PNC (postnatal care) clinics and to arrange for a skilled attendant at each

birth. Already there is evidence in districts where the *Jeevan Suraksha* has been implemented that the numbers of women attending ANC clinics has increased, and that more women are planning to arrange for a skilled attendant during childbirth. The government has stated that it wishes to see the *Jeevan Suraksha* implemented in all 75 districts of the country.

The MNH Program Legacy

The focus of the MNH Program in Nepal was to improve maternal and newborn survival by supporting the government's efforts to promote the adoption of appropriate maternal and newborn healthcare practices and behaviors and to increase the access to and use of quality maternal and newborn healthcare services. Accordingly, all of the work supported by MNH/Nepal to reinforce the concepts outlined in the MNH Program's legacy statements was done in close collaboration with His Majesty's Government of Nepal (HMG/N), and in partnership with a number of safe motherhood stakeholders. The following paragraphs highlight some particularly noteworthy partnerships and opportunities for promotion of the concepts outlined in the legacy statements.

Establishes and promotes international evidence-based standards for essential maternal and newborn care through global partnerships

The MNH/Nepal *Review, Recommendations and Action Plan* (RRAP) visit in 1999 highlighted the need for increased collaboration and coordination among safe motherhood stakeholders. Further to this recommendation, a Safe Motherhood Subcommittee (SMSC), chaired by the Family Health Division (FHD), was established in 2000. As of June 2003, 13 members were actively involved in the SMSC.[18] An assessment of the subcommittee conducted in 2003 revealed that members believe that the subcommittee is meeting its objective to support improved coordination and collaboration, and has been successful in identifying and discussing cross-cutting issues such as skilled attendance, rational use of drugs, human resource development and deployment, and neonatal care. Evidence-based standards are promoted during the course of these discussions.

MNH/Nepal also benefits from an innovative partnership with the United Nations Foundation (UNF) and UNFPA—it is the first of its kind. Starting in April 2002, funding from UNF through UNFPA was used to support and expand MNH/Nepal Program efforts across all aspects of the program: policy, clinical training systems, behavior change, and social mobilization. The additional resources provided by this partnership have allowed MNH/Nepal to expand the reach of the audience exposed to evidence-based standards.

Over the course of the Program, MNH/Nepal representatives have shared international evidence-based standards, program tools, and lessons learned at national, regional, and international conferences.

[18] Family Health Division, WHO, USAID, UNFPA, GTZ, NSMP (DFID-funded), MNH, UNICEF, SM Network, Save/US, JICA, Nepal Family Health Program (USAID-funded bilateral) and the SMSC Coordinator (formerly MNH/Nepal funded, currently NFHP funded).

Improves the quality of skilled attendance by implementing international evidence-based standards and guidelines in national policy, curricula, and competency-based training

The *National Safe Motherhood Training Strategy (2002),* promotes the use of evidence-based standards and a competency-based approach to training. The strategy addresses not only key elements related to high-quality training such as standardization of clinical skills and development of trainers and training sites, but also highlights key supporting elements necessary to improve provider performance such as supportive supervision, clear job responsibilities, review of accreditation and certification processes and management of services. Also contributing to improving the quality of skilled attendance was the development of the *National IEC/BCC Strategy for Safe Motherhood (2003)* based on international evidence-based standards. The strategy describes efforts designed for three broad categories of persons: communities, healthcare workers, and policymakers.

These national strategies, and standards such as those outlined in the MCPC, were used to guide the development of training curricula for district- and community-level providers (i.e., Auxiliary Nurse Midwives [ANMs] and Maternal and Child Health Workers [MCHWs]), and in the development of a job aid for MCHWs focused on active management of the third stage of labor. Evidence-based strategies and standards were also used in the establishment of protocols and practices at the facility level, and in strengthening two inservice training sites. Results of followup visits to trainees at their work sites suggest that the majority have retained their knowledge and skills, and have been successful in introducing selected evidenced-based practices. Routine episiotomy is no longer practiced, use of the partograph and active management of the third stage of labor has increased, and immediate breastfeeding and delayed bathing of the baby are encouraged.

Three Nepali physicians participated in the global MNH Program Regional Expert Initiative. In addition to her regular service delivery responsibilities, one of the regional experts has provided considerable technical leadership in introducing evidence-based practices at a zonal hospital in Eastern Nepal, and has been actively serving as a resource person in support of the national safe motherhood program. All three regional experts have provided technical assistance outside of Nepal to improve the quality of skilled attendance through clinical site strengthening and improving the skills of providers.

Generates shared responsibility and coordinated action among policymakers, health facilities, providers, communities, families, and women through Birth Preparedness and Complication Readiness

MNH/Nepal's work with the SMSC has contributed significantly to the generation of shared responsibility and coordinated action at the national and policy level, including a move toward jointly addressing common issues by SMSC members. The development of the National IEC/BCC SM Strategy has been another effective mechanism for encouraging shared responsibility and coordinated action. Before the strategy was implemented, considerable IEC-related SM activity was underway in Nepal, but it lacked coordination and consistency, which resulted in unnecessary duplication of efforts and dissemination of conflicting messages. The strategy brought existing efforts under one umbrella and encouraged collaborative planning of future activities according to a nationally defined vision.

The *Birth Preparedness and Complication Readiness* (BP/CR) matrix and the National IEC/BCC SM Strategy were used as resources in the development of SUMATA initiative, including the *Jeevan Suraksha* (Birth Preparedness Package). These efforts required input from policymakers, health facilities, providers, communities, families, and the women themselves. The resulting strategies and materials encourage stakeholders at all levels to take responsibility for pregnancy outcomes. This work is further reinforced through the efforts of the Safe Motherhood Network to establish district-level networks promoting concepts of safer motherhood through social mobilization.

Scales up evidence-based safe motherhood practices, tools and approaches by collaborating with global and national partners

The involvement of a variety of partners in all MNH/Nepal efforts from the inception of the Program has greatly facilitated wider use of tools and approaches developed with MNH/Nepal assistance. The SMSC has proved an excellent "sounding board" for the development of various strategies and materials and has also been an effective channel of dissemination. Some examples include translation of Nepali SUMATA materials into local languages, development of additional training sites based on the model developed by MNH/Nepal, and implementation of the *Jeevan Suraksha*.

In 2002, the MNH Program worked with the USAID-funded bilateral Nepal Family Health Program (NFHP) (2001–2006), USAID/Nepal, and key safe motherhood partners to develop a transition plan outlining how NFHP and other partners could use the products, tools, and approaches developed with assistance from MNH/Nepal. NFHP and USAID have since supported costs to print the *Jeevan Suraksha* and sustain the SMSC secretariat, and are committed to developing additional service and training sites.

It is also important to note that two national-level dissemination meetings were held in June and October 2003, each of which was attended by over 100 people representing government, donors, INGOs, and NGOs interested in safe motherhood. The meetings provided an opportunity to review key programmatic lessons learned, disseminate documentation related to program efforts, and discuss learning based on followup survey findings. Both meetings received local media coverage.

Builds the evidence base for social and behavior change interventions that generate informed demand and collective action for safe motherhood

The SUMATA Initiative, which includes a mass media campaign as well as the *Jeevan Suraksha*, was critical in building the evidence base for social and behavior change interventions. A followup survey conducted in 2003 demonstrated that the SUMATA Initiative reached 49 percent of the sample population during a 3-month period (including the mass media component as well as the *Jeevan Suraksha*, a social mobilization tool). Respondents who were exposed to SUMATA reported taking specific actions to improve birth preparedness and complication readiness as a result of exposure to the messages. During the situational analysis baseline assessment in 2001, only 64 percent of women reported using antenatal care, while 80 percent of women reported using antenatal care during the followup survey. In addition, 57 percent of

women reported saving money for childbirth at baseline, while 84 percent of women reported saving money after exposure to the SUMATA intervention.[19]

A composite measure for birth preparedness/complication readiness was developed to measure changes in knowledge, attitudes, and practices after implementation of the SUMATA Initiative. This composite score includes knowing the danger signs during childbirth, having plans for transportation and finances during childbirth, intending to give birth with a skilled attendant, and intending to use postpartum services, as well as using antenatal care services. Among women, the composite mean score increased from 3.29 during the situational analysis baseline assessment to 4.08 at followup. In addition, the mean composite scores were higher among women exposed to the SUMATA intervention, then those unexposed (3.81 versus 4.32 respectively). Thus, this finding suggests that exposure to the SUMATA Initiative contributes to taking action around birth preparedness and complication readiness, building the evidence-base for the necessity of multi-level and complementary approaches to behavior change for safe motherhood.

COUNTRY PROGRAM RESULTS

Justification for Program Presence

Nepal's estimated maternal mortality ratio of 539 per 100,000 live births is one of the highest in the world.[20] Infant mortality is estimated at 64 infant deaths per 1,000 live births,[21] with neonatal mortality accounting for approximately 39 of these deaths[22]. The poor health status of women in Nepal is linked with their low social status, as they are undervalued, frequently malnourished, and usually uneducated. Early marriage and frequent childbearing are the norm, which, combined with a heavy workload, increases the risk of obstetric complications. Over 90 percent of all births take place in the home, most without the help of a skilled attendant, and the distance and inadequacy of emergency obstetric services further compounds the risks.

In 1998, the Family Health Division (FHD) published the National *Maternal Mortality and Morbidity Study* (MMMS), which highlighted the extent of the problem. Following this study, efforts were made to respond to the findings and recommendations, under the National Safe Motherhood Program. More than 70 programs and six major donors, including USAID, were involved in a range of maternal and neonatal health activities. In 1999, USAID/Nepal asked the MNH Program to conduct a review of current programs, in order to identify programmatic gaps, effective interventions for replication or scaling-up, and areas of strategic focus, and to make recommendations regarding the most useful contributions for USAID/Nepal to make given the technical strengths available through USAID and its partners. The findings and recommendations of this *Review Recommendations and Action Plan* (RRAP) visit conducted by a multi-disciplinary team of clinicians and policy and program experts were reviewed with HMG/N and USAID/Nepal and formed the basis of the MNH/Nepal Program.

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[19] The baseline situational analysis included currently pregnant women, while the followup survey included currently pregnant and women who had given birth in the last 3 months.

[20] *Maternal Mortality and Morbidity Study, 1998*. Family Health Division, Department of Health Services, His Majesty's Government of Nepal.

[21] Ministry of Health [Nepal], New Era, and ORC Macro. 2002. *Nepal Demographic and Health Survey, 2001*. Family Health Division, Ministry of Health; New Era; and ORC Macro: Calverton, MD.

[22] *Nepal: Situational Analysis of Newborn Health*. Saving Newborn Lives Initiative, SCF/USA. 2001.

Strategic Statement

MNH/Nepal established the following strategic objective and intermediate results:

Strategic Objective: MNH/Nepal works to improve maternal and neonatal survival by supporting His Majesty's Government of Nepal's efforts to promote the adoption of appropriate maternal and neonatal health behaviors and increase access to and use of quality maternal and neonatal health services.

Intermediate Result 1: Improved policy environment and coordination of safe motherhood
Intermediate Result 2: Increased quality of safe motherhood services
Intermediate Result 3: Increased access to and demand for safe motherhood services

Program Approach

Three of the four MNH Global partners were already providing assistance to HMG/N in the area of reproductive health: JHPIEGO, JHU/CCP, and CEDPA. Based on the recommendations of the RRAP, MNH/Nepal was designed to tap into the technical expertise of these partners, and build on existing strategies and programs supported by these partners under other awards as well as build on the strong relationships that had been established with the government, donors, INGOs, and NGOs working in country.

Although some safe motherhood programs provide significant assistance to selected districts, MNH/Nepal was designed to develop tools and approaches that could be used and/or adapted throughout the country. In support of the national-level development work, piloting and limited implementation of tools and approaches have been carried out in partnership with other agencies in the districts of Kailali, Baglung, and Lalitpur. In 2001, a situation analysis was carried out in these three districts to provide a snapshot of the existing situation with respect to knowledge, attitudes, and practices regarding birth preparedness and complication readiness, prior to Program interventions. In 2003, after implementation of the *Jeevan Suraksha* and SUMATA, a followup survey was carried out in Baglung and Lalitpur to assess the resulting changes. Kailali was omitted from the Program because of security concerns.

The three intermediate results are mutually supportive by working at different levels to promote improved safe motherhood behaviors and outcomes. Work at the policy level has supported the development of appropriate policies and strategies, upon which the development of appropriate tools and approaches for improving quality of service and promoting behavior change has been based. Work focusing on improving quality of service at facilities is complemented by the development of IEC/BCC materials and social mobilization tools, which encourage communities to plan for the birth and any complications that may arise, and families to seek antenatal and postnatal care, the assistance of a skilled birth attendant, and professional help in an emergency situation.

Given that all of the work supported by MNH/Nepal has been done in close collaboration with HMG/N, and in partnership with a number of safe motherhood stakeholders, MNH/Nepal has drawn from existing experience and expertise to produce the highest possible quality product, appropriate to the context of Nepal. An additional advantage of this approach is the readiness with which other agencies, including the government, have been willing to adopt and scale up the tools developed (this is attributable to the strong sense of ownership they developed for them,

thanks to their participation in the development stages). It must be acknowledged, however, that the involvement of a large number of partners has been a challenge, and has increased the time taken for development, particularly in the case of the behavior change materials, and thus the time available for implementation and subsequent evaluation has been reduced.

Interventions and Results by Intermediate Result

Intermediate Result 1: Improved policy environment and coordination of safe motherhood

The main focus of achievements for IR1 has been the SMSC. Further to the recommendations of the RRAP, MNH/Nepal initiated extensive discussions with FHD and other partners, which led to the establishment of a committee based on the leadership of FHD. FHD has commented that having a forum that brings together the major partners on a regular basis greatly reduces its "management burden" in liaising with external development partners.

An assessment of the SMSC conducted in 2003 reflects that members feel it has improved collaboration and coordination among SM partners and had also evolved from presentation of individual programs to a forum in which cross-cutting issues are discussed. Members also feel a great deal has been achieved in the area of reviewing safe motherhood policies and strategies. The SMSC has provided significant input to the development of a number of national strategies including the *National Safe Motherhood Plan: (2002–2017)*, *National Safe Motherhood Training Strategy (2002)*, *National IEC/BCC Strategy for Safe Motherhood in Nepal (2003)* and *Neonatal Health Strategy (2003)*. The committee has also developed practical guidance to implement the policies related to Safe Motherhood in the *Tenth Five-Year National Development Plan*, has contributed to the FHD annual work-planning process, and is in the process of developing a skilled attendance strategy (currently available in draft form). The subcommittee also provides a forum to discuss the development of research proposals and review of key research findings such as the *Study of the Concept of Volunteerism: Focus on Community-Based Health Volunteers in Selected Areas of Nepal* supported by MNH/Nepal. Findings from this study informed the revision of the national Female Community Health Volunteers (FCHV) strategy.

Members interviewed for the assessment believed that the development and dissemination of these strategy documents is an indicator of the success of the SMSC. Other indicators of success include regular and active participation of the members and the recent establishment of two additional subcommittees for Child Health and Family Planning based on the model of SMSC.

MNH/Nepal supported the post of SMSC coordinator for 3 years, and helped manage the USAID Supplemental budget supporting the office costs of the secretariat. Having a funded secretariat was noted during the assessment as being an important factor in the smooth running and effectiveness of the subcommittee. As MNH/Nepal was planning for the phase-out of its support, many members came forward indicating their interest in taking on these costs, if necessary. NFHP has assumed the costs of the coordinator, and has been helping to manage the supplemental budget since 2003. It is prepared to continue to support these costs through 2006.

Members interviewed during the assessment felt that the subcommittee has evolved and developed considerably since its initiation, and there is scope for its further development into a truly strategic body, which is viewed by higher levels of the government as an integral part of the process of policy and strategy development. Other areas for growth include making stronger links at the district level to support coordination of safe motherhood efforts. It is important to

note that the Safe Motherhood Network (SMN), established in 1996 as an advocacy body with a network of district chapters, is well placed to help fill this gap. MNH/Nepal support for the network during the last year has included planning for district-level activities—the SMN has been a member of the SMSC since its inception.

MNH/Nepal worked with SMN to develop its plan to expand to district-level networks by 2003. Expansion to the district level, which is strongly supported by the network members and government offices, provides a SMN connection to the community level, and complements the government committees in the districts. The SMN has prepared basic informational guidelines for the district level, and has developed complementary "how to" tools to provide districts and communities with guidance in safe motherhood, network building, and community mobilization. To build on this expansion, SMN plans to introduce the *Jeevan Suraksha*, a tool to encourage family and community involvement in planning for childbirth.

Logframe Indicators

- Number of recommendations made by SMSC to DoHS:
  1. National Safe Motherhood Plan: 2002–2017
  2. National Safe Motherhood Training Strategy (2002)
  3. National IEC/BCC Strategy for Safe Motherhood in Nepal (2003)
  4. Neonatal Health Strategy (2003)
  5. National EOC/BEOC curriculum (2003)
  6. Recommendations for the tenth national development plan (2003)
- Number of recommendations implemented by DoHS: 6
- Number of products to which MNH has contributed becoming national standard: 7[23]
- Number of organizations adopting and scaling up MNH tools and approaches: 15[24]

Intermediate Result 2: Increased quality of safe motherhood services

MNH/Nepal has worked to improve the quality of safe motherhood services by contributing to strengthening the skills of community-level (MCHWs) and facility-based providers (ANMs and staff nurses). The Program worked with key partners and provided technical assistance to the government to revise and standardize the national curriculum for refresher training of ANMs, staff nurses, and MCHWs. Through this work, evidence-based practices such as active management of the third stage of labor have been adopted as national standards, and the competency-based approach to training has become more widely understood and accepted (see below for additional information on training site development which builds on this work).

Community-Level Providers

MNH/Nepal has also made a significant contribution toward assisting the government in better understanding the role of MCHWs with respect to skilled attendance. The evidence base to make program decisions about this cadre is growing as a result of the technical efforts of MNH/Nepal, NSMP, and Development Resource Center, a local research organization, working in collaboration with FHD and NHTC. Through this collaboration, a performance assessment of

[23] These products include the standardized training curriculum for ANMs and MCHWs; the assessment tools for clinical training sites; the MCHW job aid; the SUMATA poster and radio spots as part of the NHEICC national campaign; and the *Jeevan Suraksha*.

[24] The specific partners include: FHD, NHTC, NHEICC, UNFPA, NSMP, UNICEF, UMN, SC/US, ADRA, BNMT, IMMPACT/Nepal, NFHP, Peace Corps, GTZ, and CARE.

104 MCHWs was conducted. This exercise included both a clinical skills assessment through a series of simulations as well as collection of qualitative data in the communities in which selected MCHWs worked to better understand the factors that support and/or hinder their work.

The results of this assessment suggest refresher training has been effective in increasing the skills and confidence of MCHWs as skilled birth attendants and providers of MCH care. Refresher-trained MCHWs achieved higher scores, overall, and within a smaller range, suggesting a more standard level among this group. They were also found to be more active healthcare providers in their communities. The low number of births attended by MCHWs, however, is a concern. "Productivity" is low, for a variety of reasons, including community demand and the requirement for MCHWs to undertake a range of other non-MCH services. Given current rates of birth attendance of this community-level provider, it is unlikely they will make any significant contribution to reducing maternal mortality. Efforts to improve the environment in which they work must be made to increase the number of births they attend—this includes, but it not limited to, ensuring local recruitment/appointment of MCHWs to foster acceptance in the community, technical supervision, support and recognition, ensuring privacy at the sub health post, and support from the Village Development Committee and District Health Office.

Other MNH/Nepal efforts in support of MCHWs include the development of a job aid focused on active management of third stage of labor and selected complications during pregnancy and childbirth. The draft was piloted with the assistance of several partners from 25 districts. Based on the number and quality of completed questionnaires received, the job aid was finalized with the feedback from 328 MCHWs and 97 supervisors representing 11 districts.

Results from the pilot test monitoring data indicated that MCHWs found the tool useful and easy to understand. Other key findings included:

- Approximately 85 percent of MCHWS had used the job aid; the same percentage also reported to their supervisors that they had used the job aid.
- Almost half (47 percent) of the MCHWs had used the job aid for active management of the third stage of labor.
- Nearly one-fifth (22 percent) of MCHWs had used the job aid in connection with the management of prolonged labor.
- The job aid was also used when clients had fever, postpartum hemorrhage, or shock.
- Nearly all MCHWs (99 percent) found the job aid to be helpful.

Facility-Based Providers

MNH/Nepal worked with NHTC, FHD, NSMP, UNICEF, Patan Hospital, and Koshi Zonal Hospital to develop and strengthen two national training sites for midwifery refresher training for district-based ANMs and staff nurses. This initiative included preparing service providers as trainers to implement maternal and neonatal health training activities. Through the MNH/Nepal Program, a total of 26 service providers received a course on training for maternal and neonatal health; nine of these service providers had the opportunity to practice their training skills and were rated as competent trainers by an advanced trainer.

In 2001, Patan Hospital Birthing Center (PHBC) was developed as a clinical training site through a three-phase process, which included: 1) standardization of clinical practices and review of protocols; 2) development of training and management capacity; and 3) initiation of training, with ongoing monitoring. Improved practices noted at PHBC as a result of the training site

development process included consistent use of active management of the third stage of labor and improved newborn care, improved provider-client communication, support of the perineum during the birth, offering of a choice of birthing positions, and elimination of routine episiotomies. The site was endorsed by NHTC, and during the period of September 2001–June 2002, a total of 79 providers representing 24 districts were trained.

Followup visits were made to 35 of the 79 trained providers (representing nine districts) between March 2002 and May 2003. Results of followup visits to trainees at their work sites suggest that the majority have retained their knowledge and skills and have been successful in introducing selected evidenced-based practices. Routine episiotomy is no longer practiced, use of the partograph and active management of the third stage of labor has increased, and immediate breastfeeding and delayed bathing of the baby are encouraged.

Based on the model used for PHBC, a second site was identified for strengthening, Koshi Zonal Hospital (KSH) at Biratnagar. Unlike Patan Hospital, which is managed by United Missions to Nepal (UMN), KZH is a government hospital. As such, management issues differed greatly. The cost analysis exercise supported by MNH/Nepal, which provided recommendations to establish a tuition fee for participants, prepared financial projections for training program operations, and made recommendations for a management structure for operation of the training program, was not entirely applicable for KZH. A series of discussions with representatives from the hospital, regional, and national levels was needed to establish training management guidelines to ensure the smooth management and running of the training program.

The presence of an MNH regional expert on staff greatly facilitated the training site development process. Upon her return from the regional training program, she started to work on introducing evidence-based practices and review existing protocols at the hospital. MNH/Nepal was able to reinforce and expand her work, ensuring that all key staff were trained and essential training materials were supplied, and facilitating discussions of roles and responsibilities of those involved in training as well as assisting with securing NHTC endorsement of the training site.

Logframe Indicators

- Training curriculum for MCHW and AMN/SN standardized
- Improved practices in strengthened safe motherhood clinical training sites
- Number of trainers competent: 9

Intermediate Result 3: Increased access to and demand for safe motherhood services

The embodiment of IR3 is the SUMATA initiative, based on the *National Safe Motherhood IEC/BCC Strategy*. SUMATA was collaboratively designed and developed, involving all key safe motherhood stakeholders in a series of national-level workshops and meetings. This in itself is an achievement, which has complemented the work of the SMSC in promoting the development of new partnerships and increased collaboration in safe motherhood. SUMATA helped to identify safe motherhood as a social issue, rather than a purely medical problem, by focusing on the social dimension of maternal mortality, and highlighting the complementarities between health service provision and demand/social behaviors and norms. Communication strategies were developed with standardized safe motherhood messages, which have been incorporated into IEC/BCC materials, such as posters, billboards, lampshades and banners, radio

and TV dramas, and street theater. Radio dramas highlighting general safe motherhood messages have been broadcast nationally.

In addition to mass media, the *Jeevan Suraksha* was developed to mobilize communities around birth preparedness and complication readiness. The *Jeevan Suraksha* provides information about recommended actions to be taken at each stage of a normal pregnancy and childbirth, identifies the danger signs that indicate possible complications, and encourages financial planning for normal births and for emergencies that may occur. It also helps community mobilizers to address social issues related to caring for the pregnant woman within the family.

It is important to note that a literature review revealed that few resources were available regarding community-based financial planning tools. During the development of the *Jeevan Suraksha*, Participatory Rural Appraisal exercises were conducted in the districts of Lalitpur, Udayapur, and Baglung to gather information to better understand current financial planning practices of families and communities related to the costs anticipated for a normal birth and for possible emergencies. This information was used to develop a set of financial planning tools that were pilot tested and incorporated into the *Jeevan Suraksha*.

The package contains: a flipchart of 15 illustrated cards with text to be used by community mobilizers and healthcare providers when counseling pregnant women; a miniature duplicate in the form of a key chain, given to the pregnant woman to act as a personal reminder (the key chain is also a symbol of empowerment for Nepali women, as possession of a key chain is a sign of a woman having status in the household); "how to" guidelines for mobilizers, their supporters, and program managers; and training curricula and monitoring tools.

The *Jeevan Suraksha* was implemented in two districts under MNH/Nepal, in rural and urban Baglung in partnership with Aama Milan Kendra and the District Public Health Office, and as an urban version in Lalitpur in partnership with the Yala Urban Health Program and the Lalitpur SubMetropolitan City.

The followup survey demonstrated that the SUMATA Initiative and the *Jeevan Suraksha* had an effect in improving knowledge, attitudes, and practices around birth preparedness and complication readiness. The followup survey was conducted with a sample of 976 women, husbands, and family members in rural areas of Baglung and Lalitpur districts. Overall, 49 percent of respondents were exposed to the SUMATA Initiative, and almost all respondents understood the messages in SUMATA and the *Jeevan Suraksha* (95 percent) and reported "new learnings" from the messages (96 percent). The majority of women/families reported intending to use the information contained in SUMATA (89 percent), while 79 percent of women/families reported using the information contained in SUMATA. The specific actions reported after exposure to SUMATA mass media messages were going to a health facility for antenatal care (68 percent); eating nutritious foods during pregnancy (47 percent); and having family members share the workload for pregnant women (46 percent). In addition, almost one-third of families reported saving money for childbirth (28 percent). Specific actions taken after exposure to *Jeevan Suraksha* were similar to actions taken after exposure to SUMATA. Seventy-six percent of respondents reported going to the health facility for antenatal care; families took active interest in pregnancy for 69 percent of respondents; and 43 percent of respondents reported taking prescribed medicines during pregnancy. In addition, 37 percent of respondents reported saving money for childbirth.

A composite measure of birth preparedness/complication readiness (BP/CR) was developed to measure changes between the situation analysis in 2001 and the followup survey in 2003. The composite measure included seven elements essential to BP/CR in the MNH/Nepal Program: use of antenatal care; knowledge of prolonged labor as a danger sign during childbirth; knowledge of bleeding as a danger sign during childbirth; plan for transport; plan for finances/saving money; intention to birth with a skilled attendant (MCHW or higher); and intention to use postpartum services. Overall, the mean composite scores increased between the situation analysis and followup among the rural samples in Baglung and Lalitpur. For all women (those currently pregnant and those who recently gave birth), the mean composite score increased from 3.29 to 4.08. For husbands, the mean composite score increased from 3.45 to 3.98, and for family members, the mean composite score increased from 3.34 to 3.98. Thus, average levels of BP/CR improved from the situation analysis to followup as a result of Program interventions. Due to the short duration of the MNH/Nepal Program intervention, the levels of BP/CR could be further improved with continued implementation of Program activities.

A TV drama, entitled Aasal Logne, aired in July 2002 as part of the SUMATA Initiative, with an estimated viewership of 0.7 million Nepalis. Phone interviews were conducted with 150 respondents from five districts (Lalitpur, Kathmandu, Bhaktapur, Kailali, and Baglung) who viewed the TV drama, to gauge the effect of the program. Forty-three percent of respondents reported that the TV drama was educational and entertaining, and 42 percent of respondents said that they had learned new things. Reported lessons learned from the TV drama included: "gambling is bad" (65 percent); "good treatment being meted to daughter-in-law" (64 percent); the importance of women taking iron tablets (19 percent); and the importance of taking care of a pregnant woman, including lessening workload, lessening housework, and eating nutritious foods (16 percent).

Logframe Indicators

Percentage of:

- Messages adopted by other organizations in BP/CR: 100 percent (all materials adopted by different organizations)
- Audience exposed to messages in target districts: 49 percent
- Women and their families aware of information in SUMATA: 95 percent
- Women and their families who intend to use information in SUMATA: 89 percent
- Women and their families who use information in SUMATA: 79 percent

Sustainability of MNH/Nepal Program Investment

As mentioned at the beginning of this report, MNH/Nepal's focus was to improve maternal and neonatal survival by supporting the government's efforts to promote the adoption of appropriate maternal and neonatal health behaviors and to increase the access to and use of quality maternal and neonatal health services. Accordingly, all of the work supported by MNH/Nepal was done in close collaboration with HMG/N and in partnership with a number of safe motherhood stakeholders. The Safe Motherhood Subcommittee has been an effective mechanism through which approaches and tools have been developed, refined, and disseminated. The partnership approach used by MNH/Nepal has promoted a sense of joint ownership among both government and non-government stakeholders, facilitating their adoption of the tools and approaches developed.

In 2002 the MNH Program worked with the USAID-funded bilateral Nepal Family Health Program (NFHP) (2001–2006), USAID/Nepal, and key safe motherhood partners to develop a transition plan outlining how NFHP and other partners could use products, tools, and approaches developed with assistance from MNH/Nepal. NFHP and USAID have since supported costs to print the *Jeevan Suraksha* and sustain the SMSC secretariat (see below), and are committed to developing additional service and training sites.

At policy level, the SMSC is sufficiently well established and appreciated by members to continue and grow as a coordinating and advisory body. Nepal Family Health Program (NFHP) has committed to continuing support through 2006 for the SMSC secretariat including the position of Coordinator, which is valued by members as essential in supporting the committee to function effectively. Before NFHP confirmed their commitment to do this, two other members came forward expressing their willingness to continue to support the secretariat when MNH Program support came to a close.

The work of the SMN will also continue, as the foundations have been laid for more district-level work, and membership of the SMSC has also helped to increase the profile of the network among key safe motherhood stakeholders. NSMP has committed to funding activities for the next 6 months, and UNFPA has expressed a willingness to support selected initiatives. Thereafter SMN is working to raise funds to support continuation of its work through alternative mechanisms such as dues from member organizations.

MNH/Nepal's focus on strengthening the existing infrastructure for training of community and facility-based providers (rather than direct funding of any training activities, for example) contributes to the sustainability of these efforts. Evidence-based practices have become accepted standards as part of the nationally endorsed ANM/Staff Nurse and MCHW refresher training curricula. The two training sites strengthened with the assistance of MNH/Nepal are greatly valued resources as evidenced by the strong demand for training at these sites. The assessment of almost 50 percent of the participants receiving training at Patan Hospital Birthing Center suggests that these providers are facilitating the implementation of improved practices at the district level. The close involvement of NHTC, NSMP, and UNICEF in this work, and their commitment to strengthening additional sites based on this model, indicates that this work will continue to grow.

Many of the materials developed under the SUMATA initiative have already been adopted by partners such as: NSMP, UNFPA, UNICEF, ADRA, NFHP, and IMPACT/Nepal. A total of 19 organizations have adopted and are in the process of scaling up MNH/Nepal behavior change tools and approaches in 33 districts. Also, following the MNH/Nepal-supported broadcast of the TV drama, the drama was rebroadcast twice with other financial support. Partners have expanded the reach of the materials not only through disseminating existing materials but also translating them into local languages and adapting them into other formats. For example, NSMP has translated the radio program into local languages and is broadcasting them in three districts (Surkhet, Pokhara, and Lumbini) via local radio, and images from posters have been converted to calendars.

The followup survey suggests promising results with respect to behavior change related to birth preparedness and complication readiness. However, behavior change takes time and the momentum created by SUMATA, including the *Jeevan Suraksha*, needs to be reinforced. Fortunately, Saving Newborn Lives is committed not only to supporting implementation of the

Jeevan Suraksha, but also to rigorous monitoring over the next couple of years to measure the effect of the package on behaviors and birth outcomes. FHD is already encouraging partners to assist them with scaling up this package throughout the country. At the dissemination of the package in 2002, a total of eight organizations, representing a total of 19 districts and six municipalities, committed to its implementation.

It is also important to note that the Program has worked in close collaboration with government to produce a series of final reports outlining key lessons learned regarding different aspects of Program-supported efforts and practical considerations to continue to move these efforts forward. It is hoped that these documents can support the government and partners interested in continuing this work. The following final Program documents have been produced:

- The Safe Motherhood SubCommittee in Nepal: An Assessment
- Strengthening the Quality of Skilled Attendance: An Assessment of Provider Performance Post Refresher Training
- Training Site Development: The Patan Hospital Birthing Center Experience
- The Midwifery Refresher Training Program at Patan Hospital: A Cost Analysis
- Training Site Strengthening: Experiences from Koshi Zonal Hospital
- Financial Planning for Childbirth: An Assessment of Community Practices in Nepal
- The Jeevan Suraksha (Birth Preparedness Package): A Tool for Social Mobilization
- SUMATA: Pregnancy and Childbirth is Special, Make it Safe

In addition to distribution of hard copies of these reports, a CD-ROM containing copies of all of the reports, as well as a video clip of the street theater conducted under the SUMATA initiative, has been produced and distributed to key partners.

LATIN AMERICA AND THE CARIBBEAN

BOLIVIA 1999–2003

EXECUTIVE SUMMARY

The purpose of the Maternal and Neonatal Health (MNH) Program in Bolivia ("Salud Materna y Neonatal", as it is known in Spanish) was to promote maternal and neonatal survival in 17 districts of the country. The MNH Program considered that the most effective way to achieve this objective was to implement an integrated network of services and communities for the reduction of maternal and child mortality. During its period of implementation (from August 1999 to March 2003), MNH/Bolivia, in coordination with USAID/Bolivia and Proyecto de Salud Integral/PROSIN (the bilateral organization that coordinates USAID/Bolivia's support to the Ministry of Health), adopted lessons learned during a 30-year history of maternal and child health programs in Bolivia, contributing to the development of a national policy that prioritizes maternal and child health as the key focus of the Ministry of Health (MOH).

The major accomplishment of the Program is the development of the conceptual and operational framework for organizing services and community networks for the promotion of maternal and neonatal health. MNH/Bolivia succeeded in positioning the network approach into the healthcare system and municipal governments to the extent that today, networks are part of the Bolivian government's main social and health strategy. This is recognized in Law No. 2426, which created the Universal Maternal/Child Health Insurance (Seguro Universal Materno Infantil/SUMI), as well as in the Presidencial Decree about the Managerial Model and Local Health Board (Modelo de Gestión y Directorio Local de Salud). One example of the implementation of the system of networks is in the city of El Alto, the third most populous city in Bolivia, where, with technical support from MNH/Bolivia, the Municipal Health Board established an Emergency Medical System (Sistema de Urgencias Médicas de El Alto/SUMA 911). This network is financially self-sustainable and helps to prevent approximately 120 maternal deaths each year.

In addition to shared responsibility and action, there is a focus on community contributions to quality assurance of health services. The organization and training of groups of Health Defenders ("Defensores de la Salud") in the 17 Program districts is an important contribution in this regard. The Health Defenders are volunteers chosen by their communities from grassroots organizations (neighborhood groups, farmers' unions, and other associations) devoted to promoting the right to health, controlling the quality of the services from the client's perspective, and facilitating actions to improve health conditions in the community. MNH/Bolivia and other stakeholders contributed to the production of materials to support the Health Defenders, such as the *Methodological Guidelines* and the *Training Manual for Health Defenders*. Thirty out of the 31 Defenders' Offices originally established are currently working.

To improve the quality of care in the services networks and improve providers' performance, MNH/Bolivia promoted the concept of evidence-based practices in maternal and neonatal health through continuing education workshops in essential maternal and neonatal care (EMNC) and clinical skills standardization courses in the 17 Program districts. Also, as part of the MNH Program's Regional Experts Development Initiative to enhance the clinical and training skills of physicians and midwives in EMNC, a Bolivian physician was trained as a Regional Expert, and

four physicians were trained as EMNC trainers. To date, a group of 37 providers has been trained in EMNC. Related to the improvement of service quality and provider performance is the effective advocacy work conducted by MNH/Bolivia and USAID's technical team for the introduction of improved maternal and neonatal health practices. As a result, Ministerial Resolution No. 496 (October 2001) was passed, which puts into place 18 mandatory practices during labor, childbirth, and postpartum care (e.g., a hospital access plan for emergencies, use of the partograph, active management of the third stage of labor, restrictive use of episiotomy, and assurance that the newborn remains warm after birth).

MNH/Bolivia provided technical assistance and leadership in the publication of two important guidelines, which were revised and approved by the Unit for Human Health Services of the Ministry of Health (MOH/UNAP) and USAID: the *National Norm for Clinic Supervision* and the third edition of the *National Norm of Epidemiological Surveillance of Maternal Mortality*, which introduced the component of community surveillance of maternal deaths. The Program's contributions to this effort have also been substantial. MNH/Bolivia was a key participant in the Bolivia National Census of 2001, incorporating questions to detect maternal deaths and their followup through a post-census survey, thus gathering up-to-date information about maternal mortality in Bolivia in the year 2000. Also, MNH/Bolivia, together with USAID/Bolivia and Cooperazione Italiana/COOPI (the Italian Cooperation agency), contributed to scaling up an experimental program that worked with Health Promoters ("Manzaneras de la Salud"), a group of volunteers who promote health activities and community surveillance of women's health through home visits. The "Manzaneras" program expanded to various districts of El Alto as well as the departments of Cochabamba and Sucre.

Another MNH/Bolivia accomplishment in the field of epidemiological surveillance is the design and implementation of the methodology of the Community Committee for Analysis of Information (Community CAI). MNH/Bolivia adapted this methodology from the successful experience of Project Hope/Bolivia, in the District of Camargo (Chuquisaca), and scaled up in collaboration with bilateral (USAID), multilateral (UNFPA), and national (Project Hope/Bolivia) partners through training workshops, the formulation of methodological guides, and interinstitutional and community coordination for reproducing the training materials and learning activities. The Community CAIs are community meetings with participation of health personnel to discuss health information from the facilities and the community itself. Through them, the community can share concerns and ideas about the health situation and services, emphasizing the processes for identifying warning signs, getting medical attention, arranging transportation to appropriate centers, and other aspects concerning social and institutional responsibility toward health. The methodology responds to the need to actively incorporate the community in the planning and implementation of health activities.

During its 3.5 years of existence, MNH/Bolivia, together with USAID, carried out diverse advocacy activities in support of maternal and neonatal health. One significant contribution was the National Mapping of Maternal and Child Health, a method for identifying serious gaps in maternal and child health. It was created by a group of experts from the MOH, USAID, GTZ, and MNH/Bolivia, and later adopted by the MOH as an efficient technique for using available health and social information to produce indices that would allow the classification of the provinces by chosen indicators and the selection of areas of intervention. Based on this document, the MOH assigned districts to MNH/Bolivia. In addition, the MNH Program participated in the creation and publication of the National Maternal and Neonatal Health Plan that provided assistance to the National Forum on Sexual and Reproductive Health, the National

Committee for Safe Motherhood, and the Interinstitutional Advisory Group for Safe Motherhood. It also participated with other agencies, including USAID, UNFPA, and PAHO, in the organization of the Regional Community Mobilization for Safe Motherhood Meeting, which was attended by a total of 858 people, including community representatives, leaders, and facilitators from all nine departments in the country.

By providing assistance to the MOH/UNAP to organize the National Workshop for Educational Communication in Maternal Health, MNH/Bolivia facilitated the formulation of local information, education, and communication (IEC) strategies and plans, the collection of information, building of local capacity, coordination among different sectors (health, education, municipalities, etc.) at the local level, and promotion of community participation for decision-making in the planning and implementation of IEC initiatives. In this way the MNH Program in Bolivia is linked to activities carried out at the international level in maternal and neonatal health to generate behavior change and collective action for safe motherhood.

The MNH Program Legacy

MNH/Bolivia has reinforced the MNH Program's global legacy through its Program strategy and related activities.

Establishing and promoting international evidence-based standards for EMNC through global partnerships

MNH/Bolivia successfully collaborated with the MOH by promoting the concept of evidence-based perinatal medicine in the country. In order to improve provider performance and improve the quality of care in the services networks, MNH/Bolivia conducted continuing education workshops in EMNC and clinical standardization courses in the 17 Program districts. At the request of the MOH, more than 1,000 providers including doctors, nurses, and nurse auxiliaries received an initial knowledge update in management of maternal and newborn complications. As part of the effort to enhance the regional skills of physicians and midwives in EMNC, a Bolivian physician was trained through the MNH Program's Regional Experts Development Initiative in EMNC and training skills, and since completing his training in November 2002 he has trained a group of 37 providers (19 physicians and 18 nurses). Later, four physicians were trained as EMNC trainers. The Regional Expert and the group of four trainers have been working with the MOH to continue training activities in the country after MNH/Bolivia phases out. These future trainings have been added to PROSIN's workplan and budget to assure financial support.

Improving the quality of skilled attendance by implementing international evidence-based standards and guidelines in national policy, curricula, and competency-based training

MNH/Bolivia emphasized the standardization of EMNC services by advocating for legislation on improved practices for maternal and neonatal health. This culminated in Ministerial Resolution No. 496, which makes mandatory the use of 18 improved clinical practices, including active management of the third stage of labor and restrictive use of episiotomy. Fourteen of those practices are concerned with clinical procedures, and four of them are related to information pertaining to patient education and patient rights.

Generating shared responsibility and coordinated action among policymakers, health facilities, providers, communities, families, and women through birth preparedness and complication readiness

The greatest accomplishment of the MNH Program in Bolivia is the formulation of the conceptual and operational frameworks for the organization of services and community networks for the promotion of maternal and neonatal health. The network approach is intended to obtain better maternal and neonatal health outcomes by providing an added value to the existing non-integrated service facilities. This added value is particularly important in the case of obstetric emergencies and relies on two basic features: 1) continuity of care/ "24/7" access to the required health services through the network; and 2) increased capacity of the health system to resolve obstetric emergencies. Along with the services network, the community network ensures that the community can effectively access their rights to healthcare, and can actively participate in the diagnosis, design, program implementation, and evaluation of maternal health initiatives. Through this approach, the community is not seen as an extension of the health service, but as an equal partner that has specific functions such as health protection, community control of quality of health services, health education, and advocacy for maternal health.

MNH/Bolivia developed the document *Services and Community Networks for Maternal and Neonatal Health* (Redes de Servicios y Redes Sociales para el Desarrollo de la Salud Materna y Neonatal) with guidelines for the establishment, operation, supervision and evaluation of the services and community networks. The document was reviewed, accepted, and published by the MOH/UNAP and USAID/Bolivia. The MNH Program, together with USAID, later undertook a committed advocacy role in support of the benefits of the network approach. This approach received the support of the main organizations working on maternal health in Bolivia, including the National Forum on Sexual and Reproductive Health, the Interinstitutional Advisory Group for Safe Motherhood, PAHO, PROCOSI (Programa de Coordinación en Salud Integral, a network of 26 local NGOs and other women's groups), and others.

National legislature provisions, such as Law No. 2426, which created the Universal Maternal/Child Health Insurance (SUMI) and the Presidential Decree about the Managerial Model and Local Health Board, are evidence that the MNH/Bolivia and USAID succeeded in positioning the network approach into the health system and the municipal government structures.

Scaling up evidence-based safe motherhood practices, tools and approaches by collaborating with national and global partners

MNH/Bolivia and PROSIN organized a "Transfer of Technology" workshop in March 2003 to transfer the methodologies developed to implement the services and community networks. This workshop was the last technical activity MNH/Bolivia carried out before closing out. The workshop was designed to help health managers and leaders effectively organize local teams that can continue the maternal and neonatal health activities supported by MNH/Bolivia. The participants included members from the nine Health Departments in the country, as well as staff from Cooperating Agencies and technical organizations such as PROSIN. The topics of the workshop included the organization of networks (services and community), clinical supervision of services, community mobilization, epidemiological surveillance, Community CAIs, and others. During the workshop, the departmental teams introduced their workplans describing the

activities that will be implemented during the upcoming year. A second "Transfer of Technology" workshop was conducted in June 2003 before closing the Program.

COUNTRY PROGRAM RESULTS

Justification for Program Presence

The Bolivian government participated in the United Nations Millennium Summit 2000 in which 189 countries established goals and objectives for development. For many poor countries including Bolivia, the improvement of maternal health in order to reduce maternal mortality by three quarters between 1990 and 2015 was identified as a key objective.

The government of Bolivia recognizes that maternal and child deaths are among the most pressing health problems in the country. Despite various strategies and interventions in support of maternal health over the last 30 years, the stratified nature of the care provision system was not conducive to continuity of care and effective resolution of obstetric emergencies. The complex organizational structure of health services and their relationships to the isolated outlying communities was designed more for administrative ease than to facilitate action. In addition, the linkage of services to community organizations was very limited.

Faced with this situation, USAID/Bolivia invited the MNH Program to provide technical assistance to the MOH in order to improve its strategies for reducing maternal mortality. In this way, USAID continued its support for safe motherhood activities that were initiated under the Warmi Project in 1992 under MotherCare I, and which have been enriched over time with experience gained within the country and with the new models and techniques provided by the MNH Program.

Strategic Statement

MNH/Bolivia established the following strategic objective and intermediate results:

Strategic Objective: To implement 17 integrated services and community networks to improve maternal and neonatal survival

Intermediate Result 1: Maternal and neonatal health services networks established and functioning

1.1 Quality maternal and child health services
1.2 Epidemiological surveillance system functioning in the MNH/Bolivia districts
1.3 Functioning network of communication and transport

Intermediate Result 2: Community networks established and functioning

1.1 Strengthened community organizations that promote maternal and child health
1.2 Established community system for surveillance of maternal and child health
1.3 Promotion of use of maternal and child health services through community mobilization
1.4 Improved domestic and traditional maternal and child health practices

Intermediate Result 3: Institutional capacity strengthened

3.1 Institutions collaborating to promote maternal and child survival
3.2 Improved institutional capability of health services and community organizations through resource management
3.3 Dissemination of lessons learned and improved maternal and child health practices
3.4 Strengthened maternal and child health policies at the national level
3.5 Strengthened preservice education and training of doctors, nurses and auxiliaries

Programming Approach

Phases of the Program
The program was developed for implementation in three phases: a) design and conceptualization; b) advocacy of the new concepts and methodologies to make them part of the country's health policy; and c) technology transfer and implementation.

Design and conceptualization phase
The aim of this phase was to create the theoretical framework in which MNH/Bolivia was going to implement its activities. It was also intended to provide technical support for the development and/or implementation of certain actions that would benefit the MNH Bolivia Program.

During this phase the MNH/Bolivia team elaborated on or made substantial contributions to:

- The National Maternal and Neonatal Health Plan. Developed in 2000, this document, stating the goals and objectives, strategies, and the basic components of the plan, was the basis for the implementation of the MNH/Bolivia Program.
- The National Policy for the Development of Human Resources in the Health System. This document was a baseline study of the human resources in the health system. It also stated the strategies for the development of these resources in terms of training, skills improvement and followup.
- Maternal and Neonatal Health Map and identification of priority health districts. This document allows the team to classify provinces based on the maternal and neonatal health situation and the capacity to respond to the maternal and neonatal health needs to implement programs. For the first time in Bolivia it was possible to select priority provinces and districts based on actual data.
- Development of the document *Services and Community Networks for Maternal and Neonatal Health*. This core document provided the basis for the implementation of activities within the National Maternal and Neonatal Health Plan. It introduced new concepts and methodologies, later adopted by the new government, and introduced the new Managerial Model created by the MOH.
- Guidelines for the Design of Communication Strategies. This document outlined the process for developing local communication strategies based on local needs developed and implemented with local resources. These strategies were innovative in that community participation was used in their production.
- Incorporation of questions related to maternal mortality in the Bolivia National Census Questionnaire. The inclusion of these questions made it possible to determine the maternal

mortality ratio nationally and at departmental levels, the main causes of maternal deaths and the distribution of deaths at facilities or at homes. These results are now being analyzed in order to make changes in the National Maternal and Neonatal Health Plan.

While MNH/Bolivia was in its design phase, USAID and PROSIN created a strategy called "CIELO," which stands for Local Strategic Interventions Component (Componente de Intervenciones Estratégicas Locales). This strategy was designed to reinforce the decentralization process at the MOH by proposing and implementing health programs at health district levels. The key element of the strategy was to allow health districts to develop local health strategies tailored to local needs.

MNH/Bolivia proposed a project based on a conceptual framework that fit perfectly with the "CIELO" strategy. The MNH Program's work became the main component of this strategy until 2002, when "CIELO" was no longer an independent strategy and was incorporated in every activity PROSIN implemented in Bolivia.

Advocacy phase

It was crucial for MNH/Bolivia to establish political and technical links with all the actors involved in the improvement of maternal and neonatal health. Although MNH/Bolivia worked closely with the MOH, it also had to be a vital link between the public and private sectors, and provide technical support for interinstitutional initiatives such as Safe Motherhood, the National Forum on Sexual and Reproductive Health, and other institutions related to maternal and neonatal health. Highlights of the activities implemented in this phase include the following:

- The collaborative work of MNH/Bolivia with the Division of Sexual and Reproductive Health of PROSIN and with the Unit for Human Health Services of the Ministry of Health (MOH/UNAP). From this point, all technical decisions regarding Program activities were made by consensus among MNH/Bolivia, PROSIN, and USAID. MNH/Bolivia and USAID provided technical assistance and PROSIN provided most of the USAID funds needed to cover operational costs. Through this partnership, the Program implemented most of the activities in this list.
- MNH/Bolivia's active participation in the National Forum on Sexual and Reproductive Health (the main coordination institution among the MOH, bilateral and multilateral donors, technical Cooperating Agencies, NGOs and the community) to reinforce the maternal and neonatal health agenda.
- Design of communication strategies for the health districts.
- Support to the "Manzaneras" program.
- Support to the "Defensores de la Salud" program.
- Support to the Community Committee for Analysis of Information (Community CAI).
- Technical assistance to the MOH, PROCOSI, the National Forum on Sexual and Reproductive Health, and the Interinstitutional Council for Safe Motherhood.
- Facilitation of agreements between the MNH Program and the Municipality of El Alto to create and strengthen the community network. Similar agreements were signed with PROCOSI (El Alto); SERVIR (Caranavi); APROSAR and Save the Children (Oruro); Medicus Mundi (Riberalta); Esperanza (Camargo); UNFPA (Cochabamba, La Paz, Tarija,

and Chuquisaca); the Canadian International Development Agency (Guayaramerín); and COOPI (La Paz, Cochabamba, Riberalta, and Guayaramerín) and MCDI (Potosí).

- Organization of the National Forum on Communication for Maternal and Neonatal Health.
- Technical assistance to the MOH in the preparation of presentations and planning documents related to Maternal Mortality.

Transfer of technology phase

During the life of the Program, MNH/Bolivia provided the technical support to implement activities designed to strengthen the service and community networks of public and private institutions. It also produced normative and technical documents for maternal and neonatal health in coordination with the MOH, USAID, and other funding and technical institutions.

Before Program close-out in March 2003, it was important to provide the MOH and other actors with the documents and methodologies that would make it possible to continue implementing activities based on the materials produced by MNH/Bolivia. This transition was provided to managerial teams from the nine departments in Bolivia and included members of the MOH and technical staff from organizations such as PROSIN. Highlights of this phase include the following:

- Agreements among MNH/Bolivia and PROSIN, UNFPA Regional Coordinators, and PAHO to initiate implementation of the activities
- National Forum on Community Mobilization for Maternal Health
- Adaptation and dissemination of the Community CAI methodology to different geographical areas
- Strategic Planning Workshop

Program Description

MNH Program/Bolivia was headquartered in La Paz. Operations and technical assistance visits to the 17 Health Districts prioritized by the National Mapping of Maternal and Child Health were coordinated out of the La Paz office. A list of the areas targeted by MNH/Bolivia is included in the map in the **Appendix** (page 134).

- Department of La Paz: a) Districts 1, 2–3, 4 and 5–6 of El Alto, and b) Caranavi
- Department of Cochabamba: a) North Metropolitan, b) South Metropolitan, and c) Quillacollo
- Department of Oruro: a) Urban district, b) Toledo, and c) Eucaliptos
- Department of Chuquisaca: a) Urban-rural district, and b) Camargo
- Department of Potosí: a) Urban-rural district, and b) Uyuni
- Department of Beni: a) Riberalta, and b) Guayaramerín

These districts contain 29 percent of the population of the country, 33 percent of maternal deaths, and 35 percent of the infant mortality. One important factor influencing site selection was that there must be good or at least adequate institutional capacity among the services in order to be selected. The situation indicated that the interventions should deal more with human capacity development than with donations of infrastructure, equipment, and human resources. As such, MNH/Bolivia predominately provided technical assistance to the MOH.

The MNH Program in Bolivia had the following components:

1. *Maternal and Neonatal Health Policies*

The purpose of this component was to establish an environment of laws and norms favorable to the development and sustainability of actions in support of maternal and newborn health. Its principal focus was the institutionalization of the proposals for services and community networks, as well as technical support on the creation of laws, regulations, norms, policies, strategies and plans aimed at strengthening citizen participation in maternal healthcare, improving the quality of services, and increasing the capacity to resolve obstetric emergencies.

2. *Development of Instruments for Epidemiological Surveillance*

This component responded to the need to follow up maternal deaths, to get to the most precise cause of individual maternal deaths, and to propose future actions to prevent the circumstances that led to this death.

3. *Training and Creation of Training Support Materials in Community Surveillance and Community Control/Quality Assurance of Maternal Healthcare*

This component was developed because most maternal deaths occur in homes, outside the health services. It is important to learn why women do not access services, and propose and implement ways to remedy this.

From its conception, the MNH Program sought to strengthen citizen participation in maternal healthcare and to promote the idea that people can influence quality of care. To this end, it initiated, supported, scaled up, and perfected existing initiatives like the Health Promoters ("Manzaneras de la Salud") and the Health Defenders ("Defensores de la Salud"). The role of the Community CAI merits special mention. Through this methodology, the community —with help from health personnel—prioritizes the main health issues that afflict it most and plans actions to address them. Another important accomplishment related to community involvement was the introduction of the epidemiological surveillance system of maternal mortality of the community component by which members of the community networks participate in the surveillance of maternal deaths at the community level.

4. *Training of Health Personnel in Quality of Care Issues*

The main purpose of this component was to contribute to the network of services being an organization open to learning and promoting evidence-based maternal and neonatal healthcare practices through which patient care, the knowledge and skills derived from personal experience, and contributions from current scientific literature about the topic are brought together. The Program conducted EMNC skills workshops and from them a group of trainers were developed. These trainers have been working for the MOH in order to replicate these training sessions countrywide.

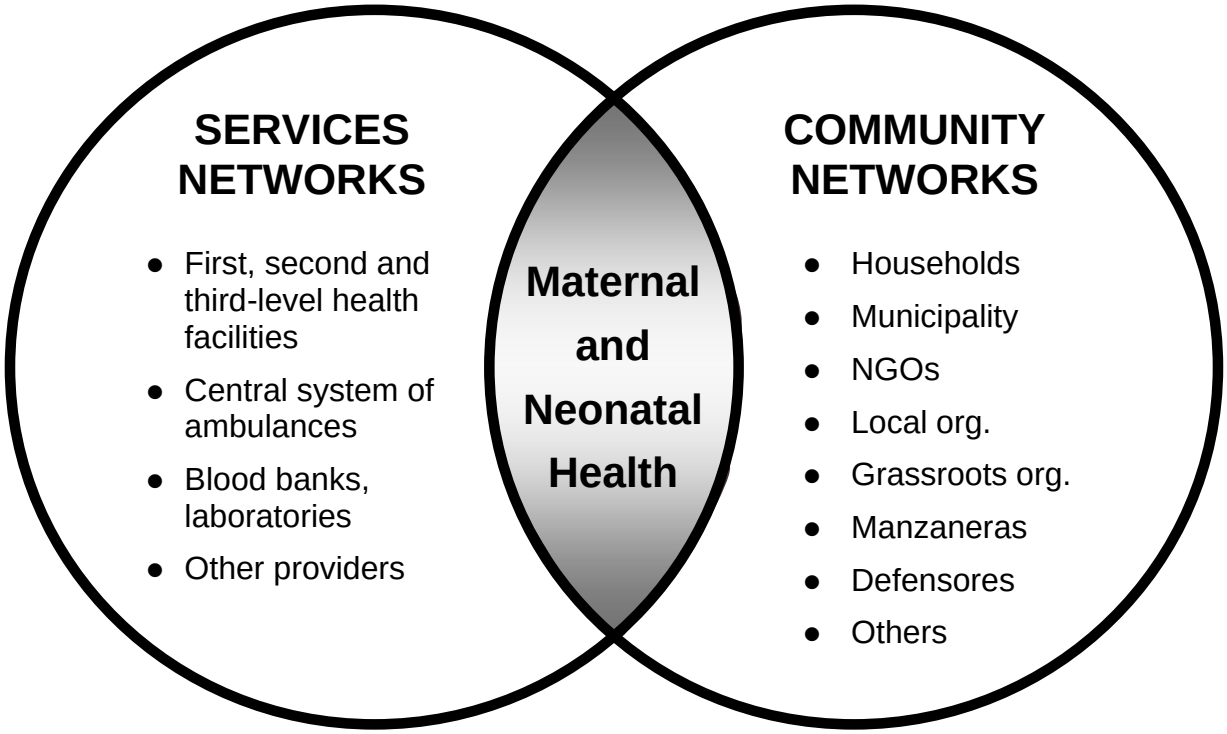
5. Educational Communication

This component was focused on the participatory formulation of local information, education and communication (IEC) plans that brought together information, local capabilities and interinstitutional efforts.

Interrelation between the Components

MNH/Bolivia introduced a new paradigm for maternal and neonatal healthcare based on services and community networks (see **Figure 9**). This new focus is now part of the main social and health strategy of the national government as captured in Law No. 2426—the creation of the Universal Maternal/Child Health Insurance (SUMI).

Figure 9. Maternal and Neonatal Health Networks



The strategy is a combination of the components for creating favorable policies, improvement of epidemiological surveillance, improvement of community surveillance, and community control/quality assurance of improvement of the quality of care and educational communication. It facilitates the fulfillment of the MNH Program's strategic objective, which is the establishment and implementation of integrated services and community networks to improve maternal and neonatal health and survival.

Interventions and Results by Intermediate Result

Intermediate Result 1: Maternal and neonatal health services networks established and functioning

Establishing the Frameworks for the Organization of Services Networks

The first activity was to develop a tool that could be used to help determine the areas in which the MNH Program would intervene. The maternal and neonatal health mapping tool was developed based on available information. For the first time in Bolivia, the areas chosen for intervention were based on technical information and allowed the optimization of interventions. The mapping tool provides information about the maternal situation and the availability of services expressed in indices for each of the provinces in the country.

The next step was to propose the theoretical framework in which the Program was going to work in the following years. The document *Services and Community Networks for Maternal and Neonatal Health* not only provided this framework but also became a benchmark for health programs because it introduces the new concepts of networks that have been adopted by the MOH for all its programs and are still the basis for the management of the health system.

During April–June 2000, an initial needs assessment was conducted to determine the current situation in each of the 17 districts chosen. A verification checklist that measured basic knowledge of healthcare providers to handle obstetric and neonatal emergencies and basic equipment and commodities was used. Based on the results, the MOH provided some equipment and requested training interventions.

The final activity in this component was a "Transfer of Technology" workshop in which managers' teams from the nine departments of the country received the technical tools and methodologies developed by MNH/Bolivia (Networks, Epidemiological Surveillance of Maternal Mortality, Norm for Clinic Supervision, etc.) to enable similar work to continue in the area of maternal health once the Program closes.

Quality of Care

As part of a MOH request, initial knowledge update sessions on the management of common maternal and neonatal emergencies for 16 of the 17 priority districts were organized together with USAID and the Basics II Project. Nearly 1,000 providers attended these sessions.

As part of the Global MNH Program strategy, a Bolivian physician was trained as a Regional Expert in EMNC training. This physician trained a group of 37 providers, 19 physicians, and 18 nurses from the MOH and from a local NGO in standardization of EMNC skills. From this cadre of trainees, four physicians were trained as trainers, and one received further training as a regional expert. These five trainers have been assigned to the MOH to continue providing training in EMNC skills nationwide.

MNH/Bolivia together with USAID were instrumental actors in the development and approval of Ministerial Resolution No. 496, which adopts 18 improved practices based on evidence. These practices, including active management of the third stage of labor, restrictive use of episiotomy, and practices that support community maternity rights, are now mandatory. MNH/Bolivia and the MOH made numerous presentations nationwide to disseminate the content of the Ministerial Resolution.

Based upon experience, MNH/Bolivia prepared the technical document and provided the technical and financial support to organize an emergency medical system (SUMA 911) for obstetric and neonatal emergencies in the city of El Alto. MNH/Bolivia also provided the technical support to replicate the system in two PROSIN districts.

Another tool produced by MNH/Bolivia is the technical document for Clinic Supervision. This document has been approved by the MOH and USAID and has been published and distributed in the nine departments of Bolivia. MNH/Bolivia provided training in the use of the document in most of the prioritized districts.

Data for Decision-Making

MNH/Bolivia provided the technical support for the preparation of the third edition of the National Norm of Epidemiological Surveillance of Maternal Mortality. The Norm was produced with a group of experts from the MOH, USAID, PAHO, and UNFPA. The Norm includes a component focused on community surveillance, since most of the maternal deaths occur outside the health facility.

The Global MNH Program organized a workshop in Lima, Perú, for country programs from the LAC Region to discuss the incorporation of questions on maternal mortality into national census. The Bolivian delegation included staff from the MOH and from the National Institute of Statistics (Instituto Nacional de Estadística/INE). This group worked afterwards to include four specific maternal mortality questions in the Bolivia National Census of 2001. Based on the information generated during the workshop, the MOH and MNH/Bolivia supported the INE in the preparation of a post-census survey to obtain information on maternal mortality. The information is still not official but it includes the new maternal mortality rate at national and departmental levels and the main causes of maternal deaths in the country.

Intermediate Result 2: Community networks established and functioning

Basic Concepts of the Community Networks

One of the main contributions of MNH/Bolivia was the introduction of the concept of "community networks," which was later adopted as a main strategy from the MOH. As mentioned above, the MNH/Bolivia team developed the document *Services and Community Networks for Maternal and Neonatal Health*. The community network takes into consideration not only the community organizations, but also the specific functions of promoting maternal and neonatal health and the links between organizations.

Advocacy

MNH/Bolivia participated actively in some interinstitutional organizations that promoted sexual and reproductive rights and introduced the concepts and methodologies to organize community networks. MNH/Bolivia was invited to participate as a consulting member of the National Forum on Sexual and Reproductive Health and the Bolivian Safe Motherhood Initiative.

Within these two organizations, MNH/Bolivia (together with USAID, PAHO, other technical organizations and local NGOs) prepared four technical meetings to discuss the document *Community Mobilization for Safe Motherhood* prepared by the MNH/Bolivia team. More than 850 people attended these meetings. As a result of these meetings the final document was produced, published, and distributed with USAID's support.

Community Surveillance
Together with COOPI, MNH/Bolivia and USAID prepared in El Alto the strategy of "Manzaneras de la Salud," a group of volunteer neighbors organized in favor of community surveillance of women's health, recognition of complications in pregnancy, and promotion of the use of services. These organizations recruited the health promoters, prepared the technical documents for training, implemented the training, and made followup visits. MNH/Bolivia, PROSIN and COOPI disseminated this successful program to other departments. More than 2,000 "Manzaneras" have been trained in the prioritized districts.

Since most maternal deaths occur in women's homes, the methodology for a Community Committee for Analysis of Information (Community CAI) was developed by MNH/Bolivia and Project Hope/Bolivia. This methodology is based on community meetings with support from health services in which information produced in the services and within the community is analyzed to produce a local diagnosis and to prepare plans for future actions to promote the health of the community. This methodology was originally developed for the Valley Region but was later adapted for the Highlands ("Altiplano").

MNH/Bolivia and PROSIN prepared the training materials and methodology to train community promoters in the recognition of danger signs in pregnant women. MNH/Bolivia also participated with the MOH in the preparation of birth preparedness and complication readiness materials, which were approved by USAID and are now being distributed by community agents and healthcare providers nationwide.

Participatory Planning
Another major accomplishment of MNH/Bolivia was the incorporation of many stakeholders in the planning activities in the prioritized districts. These planning activities included not only the technical teams from USAID, PROSIN, and the MOH but also from other bilateral and multilateral Cooperating Agencies and local NGOs (e.g., CIES [A Bolivian NGO], COOPI [Italian Cooperation], GTZ, Health Reform, PROCOSI [a network of 26 local NGOs and other Women's Groups], Project Hope, and UNFPA).

Community Control/Quality Assurance
MNH/Bolivia worked with the Social Control Board of the MOH to organize the "Defensorías de la Salud" (health defenders' organizations). These community organizations, chosen by their local community, are in charge of the community control of quality of services based on the right to health of each individual. Both institutions prepared the *Methodological Guidelines* and the *Training Manual* to train the Health Defenders ("Defensores de la Salud"). More than 500 Health Defenders have been trained nationwide.

Behavior Change Information
MNH/Bolivia and USAID funded local consultants to prepare BCI strategies in three departments in which prioritized districts are located. These plans included activities beyond maternal and neonatal care. MNH/Bolivia presented these documents to local authorities for analysis and implementation.

Result 3: Institutional capacity strengthened

As a result of the various norms, documents, methodologies developed, and technical support provided by MNH/Bolivia, several accomplishments reflect the strengthening of institutional capacity. For example:

- Definition and implementation of (and advocacy for) concepts related to services and community networks, which were institutionalized in the Presidential Decree about the Managerial Model (Article 10);
- Technical support and advocacy for the creation and promotion/dissemination of Law No. 2426, Universal Maternal/Child Health Insurance (SUMI) and its regulation;
- Guidance in the creation of the National Maternal and Neonatal Health Plan;
- Guidance in the creation of the National Policy for the Development of Human Resources in the Health System;
- Guidance in the creation of the National Norm for Clinic Supervision;
- Guidance in the creation of the National Norm for Epidemiological Surveillance of Maternal Mortality;
- Technical assistance and advocacy for the promotion/dissemination of Ministerial Resolution No. 496, which presents the 18 appropriate practices and technologies for improving quality of maternal and neonatal care;
- Preparation of conceptual framework for the organization of transportation and communication networks for facilitating referrals and counter-referrals. This proposal was materialized in the El Alto Emergency Medical System (SUMA 911); and
- Transfer of the methodologies and technical documents to managerial teams of the nine departments in the country.

Sustainability of MNH/Bolivia Program Investments

The sustainability of the MNH Program investments is one of the major strengths of the Program in Bolivia. USAID/Bolivia considered that MNH/Bolivia successfully completed their original mandate in Bolivia. A milestone of this completion was the "Transfer of Technology" workshop conducted in March 2003 by MNH/Bolivia. The workshop was designed for managers of the MOH's Departmental Board of Health from the nine Health Departments in Bolivia. Other regional leaders from PROSIN and institutions such as UNFPA also attended. During the workshop, the participants received the documents, methodologies, and technical information necessary to replicate the activities carried out by MNH/Bolivia.

The workshop included the following topics:

- Evidence-based medicine as a key element to improve the quality of care
- Services networks, how to organize and implement them
- Community networks, how to organize and implement them
- "Health Defenders"
- Community CAI and community surveillance of maternal mortality
- Epidemiological surveillance of maternal mortality
- Use of the maternal mortality surveillance software developed by the MOH
- Quality of care: Ministerial Resolution No. 496, CLAP's perinatal ID card, and clinical history
- Clinic supervision

The participants, who are local managers, will use the norms and technical documents in which the above-mentioned themes are based to train their local staff and implement these activities. Another "Transfer of Technology" workshop will be implemented the last days of June before closing the Program.

The improvement of EMNC skills training and the development of core trainers is an aspect of the Program that contributes to sustainability. The MNH/Bolivia Regional Expert trainer has been assigned to the MOH/UNAP team and he will receive support from local trainers. This group of trainers will continue providing clinical training to healthcare providers nationwide.

Another aspect related to sustainability is the Program's close relationship with PROSIN. Turnover rate in the MOH is high, but PROSIN's is much more stable. This assures that people trained by the Program (through workshops or on-the-job training) remain in their positions after the Program phases out.

Most of the counterparts recognized the institutionalization of laws regarding the services and community networks as a major achievement in terms of sustainability of the programmatic goals of the Program.

BOLIVIA APPENDIX: AREAS TARGETED BY MNH/BOLIVIA

GUATEMALA

EXECUTIVE SUMMARY

The MNH Program in Guatemala (MNH/Guatemala) worked closely with government partners, international nongovernmental organizations (INGOs), and local nongovernmental organization (NGOs) to improve maternal and newborn survival by supporting the government's efforts to promote the adoption of appropriate maternal and neonatal health behaviors and to increase the access to and use of high-quality maternal and neonatal health services. Accordingly, all of the work supported by MNH/Guatemala to reinforce the concepts outlined in the MNH Program's legacy statements was done in close collaboration with the Ministry of Health (MOH) and the Government of Guatemala, and in partnership with a number of safe motherhood stakeholders.

Alliances and partnerships developed over the life of the MNH Program in Guatemala served to further the accomplishments of JHPIEGO in Guatemala. MNH/Guatemala represents a partnership of two primary agencies: JHPIEGO and the Johns Hopkins University/Center for Communication Programs. In addition, the establishment of alliances with diverse groups of private and public sector partners also allowed for the consolidation of Program goals. These alliances were developed in close coordination with the National Reproductive Health Program (PNSR, in Spanish) and other MOH departments.

The MNH/Guatemala team led the Guatemalan MOH through an important process geared toward improving the quality of skilled attendance. A key accomplishment of the MNH Program in Guatemala was the development of an accreditation model based on a set of quality criteria and standards in maternal and neonatal health. In a process led by the PNSR, MNH/Guatemala facilitated the performance and quality improvement (PQI) process, which has as its foundation a set of internationally recognized and evidence-based quality standards for seven technical and management areas: pregnancy care; labor, childbirth, and postpartum care; infection prevention; human, physical, and material resources; support services; management systems; and information, education, and communication (IEC). The quality standards were developed for health posts, health centers, community maternities, and hospitals.

The initial foundation-building process of developing PQI in Guatemala contributes to the MNH Program goal of establishing and promoting international evidence-based standards for essential and newborn care through global partnerships. Promoted by MNH/Guatemala, a national Technical Coordination Group in Essential Maternal and Neonatal Care (GTC, in Spanish), designated by the central MOH and consisting of staff from various MOH divisions[25], was charged with review of the existing national maternal and neonatal norms and protocols and creating guides for implementing high-quality maternal and neonatal services (standards creation, training, monitoring and evaluation).

[25] GTC is made up of representatives from the following Guatemalan MOH departments: **Regulation Department**: National Reproductive Health Program, National Food Security and Nutrition Program, Medicinal Transfusion Program, HIV/AIDS Program, National Laboratory, Medications Monitoring Unit, Pharmacological Unit, Regulation and Accreditation of Health Services Department. **General Health Coverage Department** (SIAS, Spanish initials): Services Provision Unit for Tertiary Care, Services Provision Unit for Secondary Care, Services Provision Unit for Primary Care, Supervision, Monitoring and Evaluation Unit, Education and Health Promotion Program. **Human Resources Department:** General Human Resources Division, Department of Training of Human Resources, Department of Human Resource Development.

By Program end, more than one-third of the country's public sector health facilities in seven departments (153 of 428 in total—10 of 12 hospitals; 44 of 90 health centers; 97 of 323 health posts; 2 of 3 community maternities) had initiated the PQI process with the support of MNH/Guatemala. Collaboration (both financial and technical) with other international Cooperating Agencies, INGOs, and governmental organizations eventually resulted in expansion of PQI to an additional 318 health facilities in 10 additional health areas in which, at a minimum, a PQI baseline evaluation has been conducted.

Monitoring PQI results (how facilities perform according to the set standards) is a useful way to see trends toward improvement in measures that contribute to better maternal and neonatal outcomes. For example, infection prevention practices improved at every level of health facility, addressing an important cause of mortality—sepsis (rates of sepsis were not monitored by the MNH Program). Adequate decontamination of instruments rose from 0–50 percent to 100 percent in 2001, 2002, and 2003. Up from 28.5 percent in 2001, 63 percent of hospitals have adequate supplies and equipment for EMNC in their labor and childbirth rooms in 2003. The above data refer to results from hospitals supported by MNH/Guatemala interventions (7 in 2001; 10 in 2002; 8 in 2003).

Other evidence-based clinical improvements, promoted by MNH/Guatemala, were measured. In the seven intervention hospitals, using 6-month totals from October 2003 to March 2004, birth register data showed the following:

- Average percentage of deliveries where the provider used a partograph was 60 percent, with a range from 33 percent to 87 percent (MOH goal is universal use of partograph to monitor progress of labor).
- 35 percent of vaginal births in primiparous women underwent an episiotomy, with a range from 11–72 percent (a recent CLAP/PAHO publication reported a 69–92 percent range in episiotomy rates in Latin American hospitals; the WHO recommends that episiotomy not be performed routinely as a medical intervention, as it provides no benefit to the mother or baby and can increase the risk of complications).
- 55 percent of newborn babies were placed in immediate skin-to-skin contact with their mothers, with a range of 33–90 percent (the WHO recommends this practice universally to protect against hypothermia and to promote bonding).
- The average percentage of vaginal births where the provider performed active management of the third stage of labor (AMTSL) was 79 percent, with a range of 17–100 percent (clinical protocols call for universal AMTSL in vaginal births to prevent postpartum hemorrhage).

The MNH/Guatemala behavior change and community mobilization (Behavior Change Intervention, BCI) component addressed barriers to access to care identified through formative research. Participatory video focus groups and in-depth interviews with community members and leaders were conducted to better understand the dynamics at the family and community levels regarding pregnancy, childbirth, and the postpartum period. This information led to the inclusion of quality standards that focused on the quality of attention to the client (e.g., birthing position, having someone speak the local language, having someone present at the birth, etc). Formative research findings were used to design the BCI intervention by addressing cultural norms and barriers to access to the healthcare system (including lack of transport and funds and fear of being mistreated at the healthcare facility).

The BCI component was composed of two main approaches: 1) organizing communities to effectively respond to obstetric emergencies, and 2) creating informed demand for the services and information for women and their families so they can be prepared in case of an emergency. Together, these approaches worked to support the individual and family in case of obstetric emergency through the development of emergency plans (EPs) at the family and community levels. EPs include recognizing maternal danger signs and making the necessary preparations both at the family level (knowing where to go, how much money needs to be on hand, and who will take care of the house and the other children), as well as at the community level (knowing who will accompany the woman, how she will be transported, and what economic assistance can be provided). The EPs are intended to facilitate timely decision-making on the part of the family to seek qualified medical care should an obstetric or newborn emergency arise.

An important result of this process is the furthering of positive change in cultural adaptation in several health facilities. The maternity ward at Sololá Hospital, for example, now allows traditional birth attendants to be present 24 hours per day within the labor, childbirth, and postpartum wards to provide emotional support and orientation to patients referred from rural surrounding areas.

As part of an evaluation process to measure the impact of the MNH/Guatemala BCI component, MNH carried out a household survey (baseline in 2001; followup in 2003), during which the knowledge, behavior, and attitudes related to maternal and neonatal health were examined. Women of childbearing age (N=1,098) and their partners (N=545 men) living in 55 communities in three Guatemalan departments were polled. The results of the survey are in a separate MNH Program report.[26] Key findings from the impact evaluation included the following:

- Significantly more women and men in the followup knew that severe vaginal bleeding was a danger sign during pregnancy: 31 percent of women and 22 percent of the men in the baseline, compared to 66 percent and 51 percent respectively who were exposed to the Program's activities.
- The evaluation showed a significant ($p<0.01$) increase in the percentage of men and women who knew that a woman should be taken to a healthcare facility if the placenta has not been delivered within 30 minutes after birth: 11 percent at baseline vs. 22 percent at followup for women exposed and 12.6 percent for those not exposed; 4.6 percent for men at baseline vs. 19 percent for those exposed in the followup and 7 percent among the non-exposed.
- Women in the baseline were significantly ($p<0.01$) less likely to believe that a woman should receive care by a skilled attendant for prenatal care (65.5 percent) than women exposed (93 percent).
- One-third (35 percent, $p<0.01$) of the women exposed to the intervention reported at followup having a plan for transportation in case of an obstetric emergency. Twelve percent of the unexposed women in the followup and only 5 percent of all women in the baseline reported having made this type of arrangement.
- The percentage of women who reported having set aside money for an emergency was significantly higher ($p<0.01$) for those exposed at the followup than at baseline: 7 percent of

[26] Fonseca-Becker F and C Schenck-Yglesias. *Measuring the Effects of Behavior Change and Service Delivery Interventions in Guatemala with Population-Based Survey Results*, 2004.

women in the baseline compared to 74 percent ($p<0.01$) of those exposed in the followup and 26 percent among those not exposed.

- The percentage of women who believed a woman should receive skilled care for childbirth rose from 42 percent at baseline to 78 percent ($p<0.01$) of those exposed at followup. A higher percentage also believed women should receive postpartum care: 62 percent at baseline to 82 percent ($p<0.01$) at followup. The men in the study reported similar changes.

Complementing work at the community level, MNH/Guatemala has addressed maternal and neonatal issues at the policy level, ranging from dialogue and input to national technical and academic institutions, to community members and groups. MNH/Guatemala provided technical assistance to several committees/commissions charged with carrying out the *Encuesta Nacional de Salud Materno Infantil*[27] (DHS 2002). In addition, MNH/Guatemala provided important input into the creation of key social development policies, a process led by the Presidential Planning and Programming Secretariat (*Secretaría de Planificación y Programación la Presidencia,* SEGEPLAN).[28]

The MNH/Guatemala Review, Recommendations, and Action Plan (RRAP)[29], completed October 1999–February 2000, highlighted the need for increased collaboration and coordination with the MOH. Adoption of this recommendation led to the establishment of the GTC, led by the PNSR[30]. As referred to above, this group achieved the review and update of national reproductive health norms and the national protocols for medical care for obstetric and neonatal complications. They created the instruments for identifying performance improvement that serve as the basis for PQI[31], contributing to the MNH Program legacy of promoting evidence-based standards for EMNC through partnerships.

Over the course of the Program, MNH/Guatemala representatives have shared international evidence-based standards, program tools, and lessons learned at national, regional, and international conferences. Presentations and poster sessions outlining processes and results were made at International Society for Quality in Healthcare, Inc. (ISQua), American Public Health Association, and Global Health Council meetings.

An achievement that promotes increased use of international evidence-based standards in EMNC is the work MNH/Guatemala did with the MOH to reclassify nursing functions to incorporate increased use of better maternal and neonatal health practices. As part of the process to update norms and protocols, key life-saving functions traditionally carried out by auxiliary and professional nurses (covering 80 percent of the maternal and child health services in the country) were expanded. Their tasks were outlined in the *Classification of Positions and Salaries Manual*

[27] Demographic Health Survey. Encuesta de Salud Materno Infantil—ENSMI 2002. Política de Desarrollo Social. Secretaria de Planificación y Programación de la Presidencia (SEGEPLAN).

[28] The Social Development Policy details six components. One of the components relates specifically to health with 41 items related to reproductive health in general, and eight specifically are linked to maternal and neonatal health.

[29] This plan was based on several visits and field interviews with health facility staff, clinical training sites, and community health personnel in several of the intervention municipalities. In addition, a comprehensive review of JSI/MotherCare documents was conducted.

[30] The National Reproductive Health Program was created during the government administration 2000–2004 as part of Peace Accords recommendations (*Acuerdo sobre Derechos Socio Económicos y Situación Agraria*).

[31] A series of instruments were created that contain a set of quality standards for EMNC for district hospitals, Type A and Type B health centers, community maternities, and health posts by which PQI results were evaluated per the Ministerial Agreement 1109-2001.

(*Manual de Clasificación de Puestos y Salarios*) of the National Civil Service Office (ONSEC)[32], giving the nurses better legal backing that facilitates their performing newly acquired or updated skills and competencies not previously endorsed.

In addition, the curricula at seven of the eight public nursing schools in Guatemala were reviewed and updated to include the current evidence and more sound learning methodologies.

As a result of MNH-sponsored competency-based training, 66 healthcare providers were taught basic EMNC skills (management of normal labor and childbirth), and 60 providers received comprehensive EMNC training (management of obstetric complications). Also, the MNH Program developed 28 Guatemalan clinical trainers who are now competent to teach clinical skills in EMNC to their peers. As a result of cascade training carried out by these 28 trainers, an additional 20 providers have received training in basic EMNC and 44 have been trained in comprehensive EMNC. Through a modular course structure, 422 providers are pursuing competence in basic EMNC and 194 are doing so in comprehensive EMNC. Each of these providers has completed at least one module in these respective courses, taught by a clinical trainer developed by the MNH Program.

Infection prevention training, provided by the MNH/Guatemala Program in conjunction with the MOH, was given to 332 participants. In addition, 440 participants received training in interpersonal communication and intercultural relations.

Three Guatemalan ob/gyns participated in the global MNH Program Regional Expert Development Initiative. In addition to regular service delivery responsibilities, one of the regional experts has proved considerable technical leadership in advising one nursing school and one school of medicine in Honduras, as well as two NGOs in Guatemala. All three local and international NGO regional experts have provided technical assistance outside of Guatemala to improve the quality of skilled attendance through strengthening the clinical skills of providers.

Leadership in safe motherhood forums is another approach of MNH/Guatemala that promotes shared responsibility and coordination among stakeholders. MNH/Guatemala developed guides for carrying out regional, departmental, and municipal safe motherhood forums. These forums served to bring to light the importance of birth preparedness and complication readiness, both among community members and policymakers. In addition, the forums were instrumental in mobilizing funds and support for actions addressing maternal mortality from municipalities, the private sector, NGOs, and service clubs. In 2003, a total of Q 1,190,000 (US $150,000) was raised for related activities.

The MNH/Guatemala Program coordinated with the inter-institutional IEC technical group (GTI/IEC, in Spanish)[33]. This coordination resulted in avoiding unnecessary duplication of efforts and dissemination of conflicting health messages. The strategy brought existing efforts from more than 14 institutions under one umbrella and encouraged collaborative planning of future activities according to a nationally defined vision and objectives defined by the group.

[32] ONSEC is the office that regulates the work of all civil servants in the country.

[33] GTI/IEC Grupo Técnico Interinstitucional. This group is sponsored by USAID and is made up of the following organizations: Asociación SHARE de Guatemala, CARE Guatemala, Plan International, MSPAS, APROFAM, UNICEF, Christian Children's Fund, Population Council, American Red Cross, POLICY II, CELSAM, Calidad en Salud/URC, PASCA, OPS, IGSS, Proredes/JSI, and Project Hope.

Through the GTI/IEC, all partner organizations participated in reviews of the materials and were able to reprint the materials and use them in their programs.

The involvement of a variety of partners in all MNH/Guatemala efforts from the inception of the Program has greatly facilitated wider use of tools and approaches developed with Program technical assistance. This collaborative effort resulted in the production of radio spots in six languages and three dialects that can be used by private and community radio stations to reach many potential listeners, both currently and in the future.

National-level dissemination efforts have reached more than 300 people who represent government donors, INGOs, and NGOs interested in safe motherhood. These efforts were a key focus of MNH/Guatemala. Programmatic lessons learned are to be shared on a CD-ROM covering the following technical elements of the MNH Program in Guatemala: Volume #1 PQI Manual and Instruments; Volume #2: IEC and the Community Mobilization and Participation Process; Volume #3: Training; Volume #4: Monitoring and Evaluation; Volume #5: Preservice Education Process; Volume #6: Annexes. Additionally, the CD-ROM includes audiovisual materials created under MNH/Guatemala, making them available to interested agencies for reproduction.

Over the life of the MNH Program, 13 audiovisual reports were broadcast over local and international press (television, radio and newspaper).

COUNTRY PROGRAM RESULTS

Justification for Program Presence

Guatemala's estimated maternal mortality ratio of 153 per 100,000 live births[34] is one of the highest in the western hemisphere. Infant mortality is estimated at 39 infant deaths per 1,000 live births[35], with neonatal mortality accounting for approximately 50 percent of these deaths. The poor health status of women in Guatemala is linked with their low social status. Traditionally, women are uneducated. Malnutrition, early marriage, and frequent childbearing are common and, combined with a heavy workload, increase the risk of obstetric complications. In some regions of the country, more than 80 percent of all births take place in the home, most without the help of a skilled attendant. Distance and inadequacy of emergency obstetric services further compound the risks.

The Social Development Law and Policy approved by the national congress in 2002 includes 41 priorities related to reproductive health; eight of these are directed specifically at the maternal and neonatal health issues promoted by MNH/Guatemala. This law has provided MNH/Guatemala with political and legal backing to develop programming efforts in Guatemala.

[34] *Línea Basal de Mortalidad Materna* (LBMM). Carried out by the MOH National Reproductive Health Program with support of an interagency committee. The RAMOS (Reproductive Age Mortality Study) methodology is widely considered the preferred methodology for estimating maternal mortality rates.
[35] *Encuesta de Salud Materno Infantil* (ENSMI) 2002. DHS-2002.

Strategic Statement

MNH/Guatemala supports the MNH global strategic objective framework, particularly IR 2: Improved essential maternal and neonatal care; IR 3: Improved policy environment for maternal and neonatal survival at the global, regional, and national levels; and IR 4: Increased demand for quality maternal and neonatal services at all levels.

MNH/Guatemala contributes to USAID/Guatemala's Strategic Objective 3: Better health for rural women and children. Specifically, MNH/Guatemala supports Mission IRs 3.1: More rural families use quality maternal and neonatal health services and 3.3: Stronger Guatemalan commitment to integrated women's health.

The following are the intermediate results for MNH/Guatemala:

Intermediate Result 1: Network of quality essential maternal and neonatal care services accredited
Intermediate Result 2: Increased appropriate use of accredited community and institutional services
Intermediate Result 3: Strengthened policies and norms implemented to sustain the adequate provision of essential maternal and neonatal healthcare services

Program Approach

Results of the RRAP conducted at the beginning of the Program period and goals outlined in Guatemala's Peace Accords were used as a framework for developing the MNH/Guatemala Program. The three components of MNH/Guatemala are the following:

- Essential maternal and neonatal care—improving maternal and neonatal care
- Behavior change—increase demand for high-quality maternal and neonatal services at all levels
- Policy change—improve the policy environment for maternal and neonatal survival

These three components addressed both demand and supply weaknesses that contribute to maternal and neonatal health problems. Behavior change efforts created demand for health services. The services received were improved through EMNC interventions, while the policy component helped to create an enabling environment for improvements in maternal and neonatal health.

The table below indicates the focus of efforts to improve quality and performance of health services. These efforts were centered on a model adapted from the International Society for Performance Improvement in which health facility staff defined desired performance. Then they identified the gap between actual and desired performance and performed a cause analysis on the gaps. The next step was to design interventions to bridge the gaps, implement the interventions outlined, and evaluate the progress. The PQI process was initiated with technical assistance from the MNH Program in the health facilities detailed in **Table 3** below.

Table 3. Health Facilities Initiating PQI with Technical Assistance from MNH/Guatemala

Department	TYPE OF FACILITY				
	Hospitals	Health Centers	Health Posts	Community Maternities	Total
Ixil	1	2	6	—	9
Mazatenango	1	4	9	1	15
Quetzaltenango	2	4	10	1	17
Quiché	1	5	14	—	20
Retalhuleu	1	6	11	1	19
San Marcos	2	11	16	—	29
Sololá	1	8	23	—	32
Totonicapán	1	4	8	—	13
TOTAL	**10**	**44**	**97**	**3**	**154**

Five key phases made up MNH/Guatemala's community mobilization process. To begin, communities are contacted and engaged in dialogue about maternal mortality. A Community Health Committee is then formed, and a Community Emergency Plan is put into place, with emergency funds identified and transportation schemes planned. Proper and timely referrals to health facilities are an expected outcome of a functioning Community Emergency Plan. Later, followup plans that promote sustainability of the Community Health Committee and Community Emergency Plans are established.

Communities and families that participate in the emergency plans gain the following life-saving benefits:

- Women and their families are better prepared for birth and any related complications
- Monetary savings that can be used in case of emergency are encouraged
- Knowledge on where to go for health services is imparted
- Transportation to health facilities is identified
- A person to watch over the house and care for children in case of an emergency is identified
- Contact with the health committee, which may provide assistance and information, is established
- Information on danger signs related to pregnancy, childbirth, and newborn care is provided

The third main component of the MNH Program in Guatemala was centered on strengthening policies and norms that allow for sustained provision of high-quality essential maternal and neonatal healthcare services. These efforts involved advocating for dialogue between the central MOH and local-level health staff. In addition, some work with the MOH underscored the importance of planning and budgeting for activities that improve health services. Another part of this policy component was the strengthening of preservice education and realignment of the official job responsibilities of nurses to enable them to carry out tasks that save women's lives.

Interventions and Results by Intermediate Result

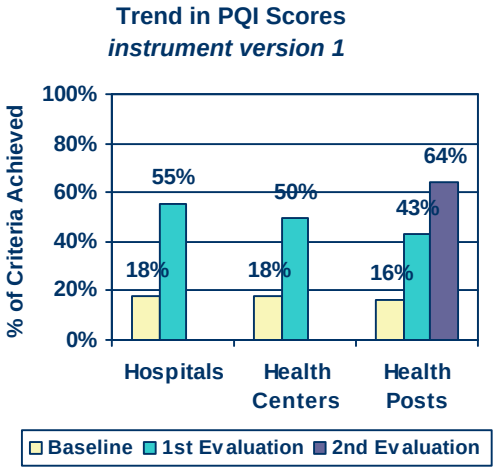
Intermediate Result 1: Network of quality essential maternal and neonatal care facilities accredited

Most of the achievements for IR 1 are related to improving the competency of healthcare providers to provide essential maternal and neonatal healthcare. MNH/Guatemala has supported MOH efforts to create the following materials: National Health Plan 2003–2004; National Reproductive Health Norms; National Protocol for Managing Obstetric Complications; training manuals on essential maternal and neonatal healthcare (basic and comprehensive EMNC); and manual and instructions for prioritizing reproductive health indicators for maternal and neonatal health. Additionally, through coordination with the GTC, the instruments for identifying improved performance for hospitals, type A and B health centers, community maternities, and health posts were elaborated.

MNH/Guatemala also worked with the MOH at the regional level to develop and strengthen four national training sites for auxiliary and registered nurses. Through the MNH/Guatemala Program, a total of 58 healthcare providers attended a clinical training skills course, and 15 attended an instructional design course. Twenty-eight of these healthcare providers then had the opportunity to practice their training skills and achieve qualification as competent trainers by an advanced trainer.

Over the course of the MNH Program in Guatemala, PQI work resulted in important improvements at healthcare facilities. By the end of April 2004, five hospitals, 16 health centers, and 30 health posts had undergone PQI evaluations on three separate occasions. **Figure 10** below shows the results for those health facilities that used the same version of the PQI tool for this series of assessments:

Figure 10. Trend in PQI Scores, Version 1



Between 2001 and 2004, health personnel from 13 hospitals, 57 health centers, two community maternities, and 91 health posts from the intervention health areas received basic and comprehensive EMNC training.

Table 4 below highlights one example of improved services: health facilities that have a copy of EMNC service delivery guidelines onsite.

Table 4. Percentage of Health Facilities with Standard EMNC Service Delivery Guidelines Onsite, of All Health Facilities in the PQI Process Provided with MNH/Guatemala Program Technical Assistance, 2001–2003

	2001	2002	2003
Hospitals	1/7 = 14%	3/10 = 30%	7/8 = 87.5%
Health Centers	0/23 = 0%	11/38 = 29%	18/38 = 47
Health Posts	1/42 = 2.38%	12/85 = 14%	24/67 = 36%
Maternities	0/0 = 0%	0/2 = 0%	1/1 = 100%
TOTAL	**2/72 = 2.77%**	**26/153 = 16.9%**	**50/114 = 44%**

Other indicators demonstrated hospital progress in improved quality of healthcare services. For example, the percentage of hospitals in the MNH/Guatemala Program area that adequately decontaminate instruments rose from 0 of 7 (0 percent) in 2001 to 8 of 8 (100 percent) in 2003. In 2001, only 2 of 7 (28.5 percent) hospitals had the equipment and materials needed for adequate provision of EMNC services; this number rose to 5 of 8 (62.5 percent) in 2003.

MNH Program trainings used competency-based methodologies. MNH/Guatemala made solid strides in ensuring that individuals trained through the Program are competent to continue offering quality training. Over a 2-year period, followup visits were made to a group of 27 clinical trainers (one of the 28 clinical trainers is the MNH/Guatemala staff member who coordinated this work).

The presence of MNH regional experts greatly facilitated the training site development process. They introduced evidence-based practices and reviewed existing protocols at several hospitals. The experts also contributed by consulting on trainings carried out at health facilities, verifying that proper training materials were used. They also facilitated discussions on roles and responsibilities related to EMNC.

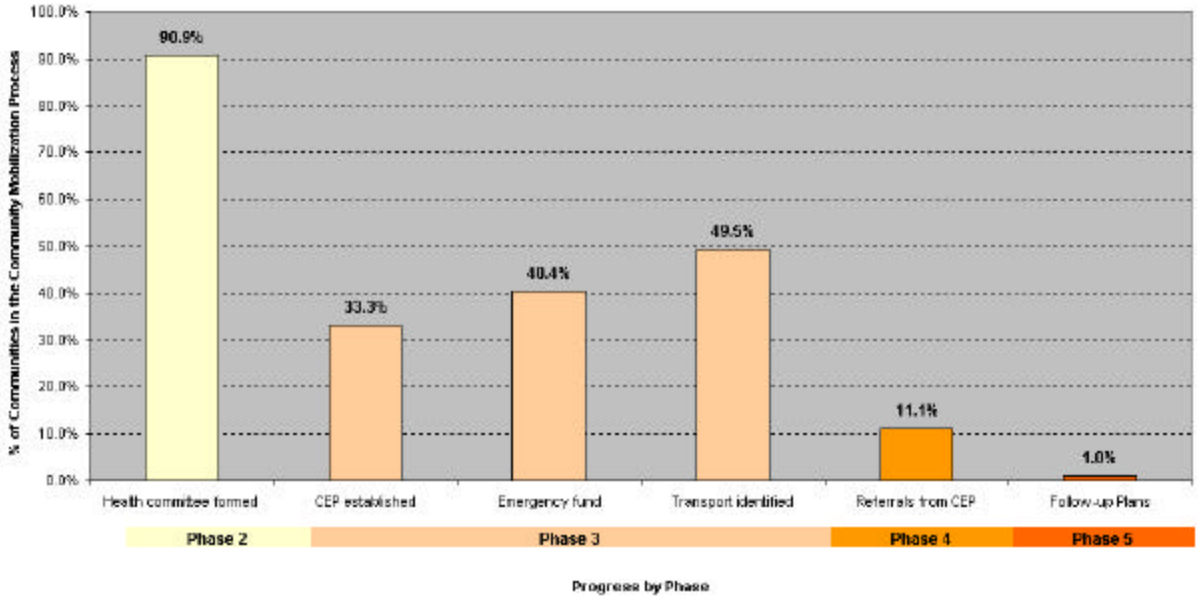
Intermediate Result 2: Increased appropriate use of accredited community and institutional services

Efforts in this IR focused on repositioning the image of accredited EMNC facilities with improved quality of service. Efforts were designed to achieve an environment in which community members held a favorable attitude about the use of maternal and neonatal health services. Interventions in support of this goal were carried out in 99 communities (25 more than originally planned). A health committee was organized or strengthened in 90 of these communities.

Figure 11 details the progress of community mobilization interventions. Of the communities, 33 percent developed a community emergency plan, 40 percent developed a community emergency fund, and nearly 50 percent identified a source of emergency transportation. With regard to the emergency funds, approximately US $4,000.00 was raised by community health committees in 2003. These funds were available for use by community members in case of general or obstetric emergencies. Just more than 10 percent of all communities in the MNH Program community

mobilization process had successfully referred at least one woman based on the existence of the community emergency plan by the end of April 2004.

Figure 11. Process Indicators for the Community Mobilization Component, MNH/Guatemala, July 2001–April 2004



Part of the formative research carried out to better understand the values, attitudes, and practices of women and their families was done using participatory video investigation methodology. The opinions of key health center users and the general community on healthcare were gathered, and the information obtained during this phase informed the development of a set of quality standards focused on giving attention to health service users. These standards included ensuring a companion for women during childbirth, using local languages, and other critical interpersonal communication standards. The information was also used to develop IEC materials, as well as the mobilization component. For example, one of the factors identified during the formative research was lack of transportation to health services; arranging transportation was then integrated into community and individual emergency plans.

Another example is the acceptance of the traditional birth attendant (TBA) in the maternity ward at Hospital Nacional de Sololá. For 2 years, more than 300 TBAs (members of *Consejo Consultivo de Comadronas*) have been available and able to serve around the clock at the hospital. They help indigenous patients better understand medical instructions and advice and provide psychosocial and emotional support during labor and birth. The information obtained from the research was also used to train MOH and the staff of various NGOs to improve their interpersonal communication and intercultural relations skills. MNH/Guatemala developed a CD-ROM that outlines the steps for conducting this type of participatory video investigation. A guide on how to conduct interpersonal communication and intercultural relations training (Interpersonal and Intercultural Relationships Manual) was also developed by MNH/Guatemala. These guides have been provided to the health promotion teams in seven health areas and MOH hospitals.

MNH/Guatemala and the MOH also collaborated to develop four radio spots in six languages and three Mayan dialects. The spots covered the following topics:

- Promotion of improved health services
- Promotion of emergency planning
- Increasing awareness of danger signs during pregnancy, childbirth, and the postpartum period
- Importance of individualized antenatal care

These radio spots are broadcast over radio stations run by local, community, and religious groups, on closed-circuit radio, and during community or organization meetings.

The promotion and use of emergency plans and community processes related to their establishment were widely accepted by many local and international organizations. MNH/Guatemala printed and distributed 50,000 copies of the family emergency plan and 10,000 copies of the community plan. Other partners (e.g., the Guatemala MOH and the European Union) also reproduced another 155,000 copies of these materials. As a result, these emergency plans were distributed to all of the health areas in the country, as well as to 100 percent of the NGOs participating in the MOH health facility coverage extension contracts nationwide. The emergency plan methodology was disseminated through PROEDUSA to 200 municipal promoters (*agentes municipales*) who cover the same number of municipalities in 25 health areas in Guatemala.

MNH/Guatemala also promoted maternal and neonatal health among sectors, inter-institutionally, and intra-institutionally (MOH). The implementation of regional, departmental, and municipal forums contributed to Guatemala's political agenda of increasing public participation. MNH/Guatemala held two regional forums, five departmental forums, and 10 municipal forums. Participants included local political authorities, local and international NGOs, churches, women's groups, and members of the private sector. These forums helped direct attention on the importance of maternal and neonatal health at the political level. The MNH Program in Guatemala produced a guide that systematizes the forum process.

In addition, the forums and other advocacy efforts helped health facilities raise funds designated to bridge gaps identified in the PQI process in health facilities. In 2002 and 2003, Q 1,190,000 (approximately US $289,000) was raised to support PQI needs. These donations came from the private sector, municipal government offices, NGOs, international Cooperating Agencies, and rural health committees.

As a result of MNH Program advocacy with hospital-level healthcare providers, improvements were shown in contact between providers and communities. In 2001, one of seven (14 percent) hospitals had linkages with at least one nearby community. By 2003, five of eight (62.5 percent) hospitals had initiated these linkages.

As indicated by USAID and as part of followup to the MotherCare project, MNH/ Guatemala supported training and strengthened processes for three community maternities. Personnel were trained in basic EMNC, and the PQI process was initiated. As part of the collaborative initiative of eight institutions (USAID, European Union, PAHO, Finland Project, Uspantán Municipal Corporation, El Quiché Health Area y Uspantán District Municipality, and the communities of La Parroquia and La Taña), MNH/Guatemala provided technical assistance for the establishment of two community maternities and community mobilization efforts in collaboration with the health committees in two surrounding communities.

Intermediate Result 3: Strengthened policies and norms implemented to sustain the adequate provision of essential maternal and neonatal healthcare services

MNH/Guatemala made strides to implement standards of care based on the WHO manual *Managing Complications in Pregnancy and Childbirth* (MCPC). As previously stated, the Program initiated a political and legal process (between the MOH and ONSEC) to make official the practice of key EMNC competencies by auxiliary nurses. Pending the approval of the minister of health, these changes will legally recognize EMNC tasks.

Under MNH/Guatemala, preservice nursing facilities were strengthened through updates to the curriculum based on EMNC competencies. With the technical assistance of MNH/Guatemala, seven of eight nursing schools revised and adopted a new curriculum that has been used to educate approximately 1,600 auxiliary and professional nurses who have graduated from these schools in the past 2 years.

Advocacy and technical support in health planning was another success of the MNH Program in Guatemala. MNH/Guatemala and the bilateral University Research Corporation/*Calidad en Salud* participated in MOH (central and health area levels) budget and programming meetings (annual, biannual, quarterly) held over the past 4 years. This participation and dialogue permitted MOH expenditures of $6.7 million, of which 10 percent was directed at maternal and neonatal health activities. These funds covered the implementation of PQI in several health centers and posts, as well as training, supervision, and monitoring of training for more than 700 healthcare providers.

For the last 4 years, MNH/Guatemala has participated in the Inter-institutional Maternal Health Monitoring Group (GMSM, in Spanish)[36] established by the MOH and led by the PNSR. As a member of this group, the MNH Program provided technical assistance for several activities, including the 2002 Demographic and Health Survey. The Program played a role in the design of, training for, and collection of information for the 2000 Maternal Mortality Baseline Survey and in preparation of the Strategic Guidelines for the Reduction of Maternal Mortality. MNH/Guatemala also participated in an operations research study that gave rise to the design for the new Birth Register. The Birth Register is used nationwide and permits the documentation and registration of basic information used to construct several basic process indicators that aid decision-making at the health facility level. A framework of basic indicators for each level of care (hospitals, health center, and health posts) was also developed and disseminated on the monitoring and evaluation volume of the MNH/Guatemala CD-ROM.

MNH/Guatemala also contributed to MOH efforts to track PQI data. The Program donated computer equipment to the MOH and created a computer database application to capture and report on trends in summary level PQI indicators by department, facility type, and technical area. To support monitoring and evaluation efforts, MNH/Guatemala contributed resources for the training of epidemiology and statistics staff of select MOH health areas in the development and use of the birth register and met needs indicators.

[36] GMSM is made up of the following organizations: CARE, Universidad Rafael Landivar, Universidad San Carlos, Organización Pan Americana de la Salud PAHO/OPS, European Union, UNICEF, UNFPA, USAID, CDC, Universidad del Valle de Guatemala, Centro de Investigación de Educación Sexual y Reproductiva (CIESAR), Secretaria Presidencial de la Mujer (SEPREM), and Instituto Nacional de Estadística.

Sustainability of MNH/Guatemala Program Investment

The focus of the MNH Program in Guatemala was to improve maternal and neonatal survival by supporting government efforts to adopt and promote appropriate maternal and neonatal health behaviors and to increase access to and use of high-quality maternal and neonatal health services. All work supported by MNH/Guatemala was done in close collaboration with MOH and in partnership with a number of safe motherhood stakeholders. The partnership approach used by the Program has promoted a sense of joint ownership among both government and non-government stakeholders and has facilitated their adoption of the tools and approaches developed.

Progress reported in two of the health areas (Suchitepéquez and Retalhuleu) is demonstrative of successful and sustainable programming. Within these two health areas, 33 health facilities developed PQI, and six achieved accreditation as centers of excellence in EMNC in 2003. Over 5 years of programming in coordination with MNH/Guatemala, these health areas used Counterpart Fund (*Fondos de Contrapartida*)[37] By developing strategic alliances with eight municipal government offices they raised approximately US $46,000 for the reduction of performance and quality gaps. This type of experience demonstrates that replication and expansion efforts can benefit from strong political involvement and participation.

In 2002 and 2003, MNH/Guatemala (along with University Research Corporation/ *Calidad en Salud* and Policy II) helped develop a strategic plan for transferring USAID projects to the Government of Guatemala. As a component of this plan, MNH/Guatemala developed several activities to promoted political dialog at the local level. With technical assistance from MNH/Guatemala, the women's group *Red de Mujeres de Sololá* (*Red*) submitted a $75,000 proposal to the MOH on the reduction of maternal mortality (promoting many life-saving interventions promoted by MNH/Guatemala) in their health area. The work of *Red* reveals how empowerment and transference of processes facilitate dialog, advocacy, and political negotiation in favor of safe motherhood.

The numbers of NGOs and Cooperating Agencies that scaled up use of PQI in additional health areas demonstrate the sustainability of MNH/Guatemala interventions. Recently, CARE received notification that the European Union would support a project to expand PQI to the Alta Verapaz health area.

Program achievements related to human capacity development also contribute to sustainability. Seven of the eight nursing schools in Guatemala now use a curriculum that promotes evidence-based obstetric care. Adoption of this curriculum ensures that all auxiliary and professional nurses (800–900 graduates per year) are more likely to provide EMNC competently in the workplace. A process undertaken by MNH/Guatemala to standardize 75 percent of the sites where nurses do their practical rotations has also contributed to sustained EMNC practices.

The wide distribution and promotion of IEC materials developed by MNH/Guatemala, especially those related to family and community emergency plans, has led to continued support for community mobilization efforts by the MOH and other organizations. SEPREM included community mobilization activities in their annual operational plans at the departmental level; this action shows their commitment to continue this work.

[37] Counterpart Funds are monies given by USAID to the Government of Guatemala (MOH).

The impact evaluation study conducted by the MNH Program in Guatemala suggests some promising results with respect to behavior change related to birth preparedness and complication readiness[38]. It is expected that the MOH will continue to support health areas so that implementation and followup of behavior change interventions might continue.

In addition, the following MNH/Guatemala documents have been produced and translated into Spanish:

- Training Manual for Basic and Comprehensive EMNC
- Monitoring Guidelines for Clinically Trained Staff
- Participatory Research Manual (interactive CD-ROM)
- Forum Development Guidelines
- Family Emergency Plan Guidelines
- Community Emergency Plan Guidelines
- Interpersonal and Intercultural Relationships Manual (CIRIS)
- Radio Messages for EMNC Guidelines
- Key Maternal and Neonatal Indicators Table and Guidelines
- List of New Tasks for Nursing Staff for EMNC
- Updated Curricula for Nursing Schools
- Guidelines for Use of the Birth Register and Calculation of Process Indicators
- Guideline for the Calculation of Met Needs Indicators
- Baseline for Maternal Mortality, Year 2000
- Guidelines for Strategic Planning to Reduce Maternal Mortality

The MNH Program has worked in close collaboration with the government to produce a series of final Program reports outlining key lessons learned on different aspects of Program-supported efforts and practical considerations to continue to move these efforts forward. MNH/Guatemala has worked with SEPREM to encourage monitoring of these activities at the local level. Many municipalities have offered to include financial resources in their annual work plans to continue the transmission of radio messages and reprint written materials.

[38] Fonseca-Becker et al. *Impact Evaluation Report, June 2004*. Maternal and Neonatal Health Component, Ministry of Health and Public Assistance/Guatemala, National Reproductive Health Program.

HAITI 2002–2004

EXECUTIVE SUMMARY

The MNH Program in Haiti was launched in 2002 and, over a period of two-and-a-half years, was able to achieve significant results through the development of essential maternal and neonatal care (EMNC) services and implementation of strategies focused on community-based demand generation. The success of the MNH Program was built on the increased collaboration among organizations supporting maternal and neonatal health. In the beginning, MNH/Haiti was in the unique position vis-à-vis other MNH Program countries in that it was able to benefit from tools and approaches already developed under the global Program (e.g., the Birth Preparedness/Complication Readiness [BP/CR] matrix and model site development tools).

Through MNH/Haiti efforts and successes to date, other Cooperating Agencies, the Ministry of Health (MOH), and USAID already see the Program's approach as key to strengthening maternal and neonatal healthcare services in Haiti as well as expanding to other areas, including prevention of mother-to-child transmission of HIV (PMTCT). For example, the MOH requested that the Creole version of the BP/CR matrix be made available to all maternity wards across Haiti; other Cooperating Agencies have utilized the model training site at Hôpital Justinien (developed under the MNH Program) to conduct clinical training; and USAID/Haiti is planning to introduce PMTCT services at MNH Program sites using antenatal care services as the platform.

The success of the Program is remarkable given the number of challenges including the political turmoil in early 2004, which resulted in the delay of activities. By the end of the MNH Program in Haiti, a total of ten clinical sites representing seven of the nine departments were strengthened and implementing evidence-based practices. A total of 56 providers received an EMNC knowledge update of which 13 completed the clinical training skills course and are EMNC trainers. At the community level, the BP/CR matrix was introduced in more than 50 community meetings, reaching an audience of more than 1,500 people.

The MNH Program Legacy

MNH/Haiti has reinforced the MNH Program's global legacy through its Program strategy and related activities.

Establishes and promotes international evidence-based standards for essential maternal and newborn care through global partnerships

Broad collaboration has been a cornerstone of the Program, beginning with the development of the MNH Program strategy. Key indicators included developing formal relationships with key partners and leveraging external resources for broadening maternal and neonatal health programming. MNH/Haiti worked closely with a range of stakeholders such as PAHO, HS-2004, Haitian Health Foundation (HHF), Centre pour le Développement et la Santé (CDS), UNFPA, the Peace Corps, and Institut National Haïtien de Santé Communautaire (INHSAC), which has served as its local implementing partner.

In 2003, the MNH Program assisted the World Health Organization (WHO) to officially launch the French version of the manual *Managing Complications in Pregnancy and Childbirth: A Guide for Midwives and Doctors* (MCPC) in Haiti. The MNH Program also improved the availability of key maternal and neonatal health training resources by working with WHO and PAHO to disseminate the MCPC manual throughout Haiti. More than 200 copies of the MCPC were distributed to the MOH, hospital directors, and departmental hospitals.

Also in 2003, MNH/Haiti launched the White Ribbon Alliance (WRA) in Haiti. More than 10 organizations are part of the alliance, including representatives from Catholic and Protestant churches, the National School of Midwives, the MOH, local NGOs (AOPS, INHSAC), Catholic Relief Services, and HS-2004.

Improves the quality of skilled attendance by implementing international evidence-based standards and guidelines in national policy, curricula and competency-based training

MNH/Haiti worked to improve the maternal and neonatal health knowledge and skills of select preservice and service delivery staff and to strengthen service provider capacity at targeted sites. Originally designed to introduce EMNC services at five sites in FY02 (Cap Haïtien, Pignon, Fort Liberté, Jérémie, and Ouanaminthe), the Program was expanded to an additional five sites (Albert Schweitzer, Hinche, Cayes, March, and Jacmel) in FY03 and FY04 for a total of ten MNH Program sites covering seven of Haiti's nine departments. Evidence-based practices, such as use of the partograph, active management of the third stage of labor, and standardized antenatal care skills, were the foundation of the Program's clinical interventions. Providers from all ten of the Program sites received maternal and neonatal health knowledge updates using the MCPC as a reference manual. Providers from nine of ten sites received clinical skills standardization and clinical skills coaching.

Generates shared responsibility and coordinated action among policymakers, health facilities, providers, communities, families and women through Birth Preparedness and Complication Readiness

Beginning in FY03, the MNH Program began implementation of its BCI strategy. The BCI strategy focused mainly on strengthening community BP/CR in the selected regions and increasing demand for high-quality maternal health services.

In Jérémie, MNH/Haiti partnered closely with HHF to introduce the MNH Program's clinical and BCI approach into their community health program. Utilizing the translated Creole version of the BP/CR matrix, clinical staff from HHF were trained in the MNH approach and adopted the matrix into its large-scale community health program. Using a comprehensive approach, HHF designed and implemented BP/CR matrix trainings for local decision-makers, MOH representatives, communities, families, and women. Through group meetings and discussions, HHF was able to introduce, inform, and educate larger numbers of communities in the region about the importance of birth planning. The collaboration with HHF has broadened the reach of MNH/Haiti's BCI strategy through the use of the BP/CR matrix to increase the number of families and communities planning for skilled care at every birth.

Scales up evidence-based safe motherhood practices, tools and approaches by collaborating with global and national partners

National-level activities have drawn on partnerships, collaboration, and scaling up of program initiatives to stakeholders and programs. For example, MNH/Haiti introduced the partograph and active management of third stage of labor into the preservice midwifery curriculum. As a result, MNH/Haiti contributed to strengthening the knowledge and skills of newly graduating midwives, an important first step in institutionalizing essential maternal and newborn care practices. In addition, the MOH and the National Secretariat of Literacy have adopted the BP/CR matrix as a tool for their ongoing national adult literacy campaign. The Program is also collaborating with the Peace Corps in Haiti for promotion of BP/CR at the community level. By the end of the MNH Program, the BP/CR and BCI approach will be integrated into the national Peace Corps training program for new volunteers.

COUNTRY PROGRAM RESULTS

Justification for Program Presence

Maternal mortality is a serious issue in Haiti. The maternal mortality ratio in Haiti is estimated to be 523 per 100,000 live births per year (DHS 2000) or as high as 1,000 per 100,000 live births per year (WHO). The majority of maternal deaths are due to hemorrhage, eclampsia, obstructed labor, and sepsis. The high maternal mortality ratio is due to factors such as lack of access to antenatal care focused on BP/CR; lack of skilled providers attending births; cultural barriers; and poor availability of services to manage complications such as bleeding in early pregnancy, eclampsia, postpartum hemorrhage, and complications of abortion. The MNH Program in Haiti is improving essential obstetric care by implementing a series of strategies focused on strengthening maternal and neonatal health services in Haiti and generating demand on the community side for high-quality services and birth planning.

Based on a needs assessment conducted in December 2001, the MNH Program in Haiti was launched in 2002 and focuses on capacity-building efforts designed to increase the quality of EMNC services at both public referral-level and private sector hospitals. In seven (of nine total) departments, MNH/Haiti has built healthcare provider capacity in normal childbirth and basic newborn care, and managing complications during pregnancy and childbirth at the public referral hospital level. At the same time, MNH/Haiti has been working with key partners and NGOs to mobilize communities through behavior change interventions in targeted catchment areas to increase local informed demand for high-quality maternal and neonatal health services.

Strategic Statement

MNH/Haiti established the following strategic objective and intermediate results.

Strategic Objective: Increased use of quality maternal and neonatal health services

Intermediate Result 1: Increase collaboration among organizations supporting maternal and neonatal health

Intermediate Result 2: Improve maternal and neonatal care services

Intermediate Result 3: Increase family and community planning for skilled care at every birth

Program Approach

MNH/Haiti's strategy focused on collaboration, clinical capacity building, and BP/CR. The Program used a two-pronged—supply and demand—approach to improve maternal and neonatal health through collaboration with a wide range of stakeholders, including donors, policymakers, department-level healthcare facilities, healthcare providers, local NGOs, and communities.

At the national level, the MNH Program served as a leading advocate for stronger maternal and newborn healthcare policies as well as increased awareness of safe motherhood strategies. The Program worked with health departments to improve the quality of maternal and newborn healthcare services and to increase the skills and knowledge of healthcare providers. The MNH Program also worked with communities, local leaders, and women and families to increase demand for maternal and newborn health services through BP/CR.

MNH/Haiti's strategic interventions accentuate collaboration and leveraging of resources and synergies. In the development and implementation of the program, USAID/Haiti and the MNH Program team collaborated extensively with local NGOs, key stakeholders from various departments, and other donors. This cooperation reflects a larger program scope both geographically and programmatically than originally planned, as well as uptake of the Program's approach by other organizations. MNH/Haiti successfully partnered with the MOH in Haiti from the beginning of the Program.

Interventions and Results by Intermediate Result

Intermediate Result 1: Increase collaboration among organizations supporting maternal and neonatal health

Broad collaboration has been a cornerstone of the MNH Program, beginning with the development of the Program strategy. Key indicators include developing formal relationships with key partners and leveraging external resources for broadening maternal and neonatal health programming. MNH/Haiti worked closely with a range of stakeholders such as PAHO, HS-2004, HHF, CDS, UNFPA, the Peace Corps, and INHSAC, which has served as its local implementing partner.

In 2003, the MNH Program assisted the WHO with the official launch of the French version of the MCPC manual in Haiti. The MNH Program also improved the availability of key maternal and neonatal health training resources by working with WHO and PAHO to disseminate the MCPC throughout Haiti. More than 200 copies of the MCPC were distributed to the MOH, hospital directors, and departmental hospitals.

MNH/Haiti advocated at the national level for EMNC to be integrated in national level systems and throughout the stakeholder community. The Program actively participated in the development, presentation, and review of the draft MOH diagnostic framework for the national strategy to reduce maternal mortality in Haiti as part of the MOH's National Committee for the Reduction of Maternal and Neonatal Mortality. The MNH Program provided technical leadership for the steering committee for the reduction of maternal mortality and worked with the MOH to develop national health indicators for antenatal and newborn care.

National level activities have drawn on partnerships, collaboration, and scaling up of program initiatives to stakeholders and programs. For example, MNH/Haiti introduced the partograph and active management of third stage of labor into preservice midwifery curriculum. As a result, the Program contributed to strengthening the knowledge and skills of newly graduating midwives, an important first step in institutionalizing EMNC practices. In addition, the MOH and the National Secretariat of Literacy have adopted the BP/CR matrix as a tool for their ongoing national adult literacy campaign. The Program is also collaborating with the Peace Corps in Haiti for promotion of BP/CR at the community level. By the end of the MNH Program, the BP/CR and BCI approaches will be integrated into the national Peace Corps training program for new volunteers.

In 2003, MNH/Haiti launched the WRA in Haiti. More than 10 organizations are part of the alliance, including representatives from Catholic and Protestant churches, the National School of Midwives, MOH, local NGOs (AOPS, INHSAC), Catholic Relief Services, and HS-2004. The launch of the WRA garnered both national and international media attention. This strategy of partnership is directed specifically at the issue of sustainability of the Alliance past the Program end date in September 2004. The strategy to launch the WRA through a broad base, led through the Haitian association of churches, enabled the Alliance to build upon already existing structures and active interest. The strategy of the WRA is to focus attention on and mobilize resources for the reduction of maternal mortality in Haiti.

MNH/Haiti also supported the Creole translation of the BP/CR matrix. The matrix received widespread dissemination and scale-up through interest generated by a range of stakeholders including the MOH and HHF. The MOH requested that the matrix be made available in all maternity wards across Haiti and is expected to increase community demand for and use of high-quality services in target catchment areas. The use of the BP/CR matrix by HHF in the southwest part of Haiti has generated more than 50 community meetings, reaching an audience of more than 1,500 people.

Intermediate Result 2: Improve maternal and neonatal care services

MNH/Haiti worked to improve the maternal and neonatal health knowledge and skills of select preservice and service delivery staff and to strengthen healthcare provider capacity at targeted sites. Originally designed to introduce EMNC services at five sites in FY02 (Cap Haïtien, Pignon, Fort Liberté, Jérémie, and Ouanaminthe), the Program was expanded to an additional five sites (Albert Schweitzer, Hinche, Cayes, March, and Jacmel) in FY03 and FY04 for a total of ten MNH Program sites covering seven of Haiti's nine departments (see **Table 5** below).

Table 5. MNH/Haiti Program Sites

INSTITUTION/AREA	LOCATION/CITY	DEPARTMENT
Original MNH Program Facilities (Phase I)		
Hôpital Justinien	Cap Haïtien	Nord
Hôpital de Pignon	Pignon	Nord
Hôpital de Fort Liberté	Fort Liberté	Nord Est
Centre de Ouanaminthe	Ouanaminthe	Nord Est
Hôpital St Antoine	Jérémie	Grande Anse
MNH Expansion Facilities (Phase II)		
Hôpital Albert Schweitzer	Deschapelles	Artibonite
Hôpital St Therese	Hinche	Centre
Hôpital Immaculée Conception	Cayes	Sud
Hôpital Lumiere March	Mirabelais	Sud
Hôpital St Michel	Jacmel	Sud Est
Communities for Behavior Change Interventions (Phase II)		
5 Communes	Jérémie	Grande Anse

Evidence-based practices, such as use of the partograph, active management of the third stage of labor, and standardized antenatal care skills, have been the foundation of the Program's clinical interventions. Providers from all ten of the Program sites have received maternal and neonatal health knowledge updates using the MCPC as a reference manual. Providers from nine of ten sites received clinical skills standardization and coaching. As part of the ongoing collaboration with HHF, a modified MNH knowledge update was developed for the auxiliary nurses from five communes in Jérémie. The update included a clinical decision-making component essential to high-quality maternal and neonatal health services, counseling, and postpartum skills, with an extra focus on appropriate and timely referral.

Using a two-phased approach, a core group of clinical trainers was developed from the five original MNH sites as part of Phase I. Trained providers from these sites attended a clinical training skills workshop in October 2003. During Phase II (FY04), these trainers were used to train providers from the five expansion sites and the five sites with auxiliary nurses from the commune in Jérémie. The end result is that Haiti now has a solid group of clinical maternal and neonatal healthcare trainers who are using their skills to train other providers.

By the end of the Program, a total of 56 providers received a 1-week knowledge update, of whom 22 subsequently attended a 2-week clinical skills standardization course and 13 participated in a 2-week clinical training skills course. **Table 6** outlines the clinical training activities during the MNH Program in Haiti.

Table 6. MNH/Haiti Clinical Training Activities, June 2002–June 2004

TYPE OF TRAINING	DATE	NUMBER OF TRAINEES	PARTICIPATING INSTITUTIONS	TRAINING SITE
MNH Knowledge Update, Phase I	June 2002	23	Cap Haïtien, Ouanaminthe, Fort Liberté, St Antoine	Kaliko
Clinical Skills Standardization, Phase I	September 2002	11	Cap Haïtien, Pignon, Ouanaminthe, Fort Liberté	Cap Haïtien
MNH Regional Expert Training	Summer/Fall 2002	1	Dr. Robert Midy, JHPIEGO consultant	
Clinical Training Skills, Phase I	October 2003	13	Hinche, Cap Haïtien, Pignon, Fort Liberté, Ouanaminthe, Albert Schweitzer, Cayes, Ecole des Infirmières	Kaliko
MNH Knowledge Update, Phase II	December 2003	14	Cayes, Jacmel, Hinche, Ouanaminthe, Mirebalais, Jérémie, Cap Haïtien	Xiragua
		19 (Jérémie communes)	Dayère, Carrefour-Sanon, Latibolière, Léon, Mackandal, Marcfranc, Prévilé, Centre Espoir, HHF, Ecole des Infirmières	Jérémie
Clinical Skills Standardization, Phase II	April 2004	11	Cayes, Jacmel, Jérémie, Albert Schweitzer, Hinche, Ouanaminthe	Cap Haïtien
Clinical Skills Coaching, Phase II	June 2004	11	Cayes, Jacmel, Albert Schweitzer, Hinche, Ouanaminthe	Site visits

As a result of capacity-building activities, the MNH Program has improved the quality of maternal and neonatal health services in seven public departmental hospitals and three private hospitals. At baseline, only two of the 10 MNH-assisted facilities reported using the partograph to guide decision-making during labor—one private facility (Albert Schweitzer) used a modified partograph and a second facility (Jacmel) had one provider who had been trained in Martinique to use the partograph. Only one of the sites (Cayes) reported practicing active management of the third stage of labor, but the practice was not the norm. In addition, episiotomy for primigravidas was a routine procedure at most facilities, and none of the facilities practiced immediate skin-to-skin contact between mother and newborn. In contrast, at the close of the MNH/Haiti Program, active management of the third stage of labor is reportedly used systematically at four of the five Phase I intervention sites. The introduction of the partograph has had more limited success; however, it is now used routinely by the model MNH training site in Cap Haïtien, Hôpital Justinien, and in the hospitals in Pignon and Ft. Liberté, but not at the hospitals in Jérémie and Ouanaminthe. In addition, use of episiotomy among primigravidas at Phase I sites has reportedly been reduced, while immediate skin-to-skin contact between mothers and newborns has increased.

The MNH Program in Haiti has established the incountry capacity to sustain high-quality maternal and neonatal health services through the development of a core group of maternal and neonatal health trainers. Under Phase I, 13 providers from the five original MNH Program sites

attended a clinical training skills course focused on EMNC training skills and course development. During this course, participants acquired the skills to design and implement a clinical EMNC course at their facility as well as act as a training resource for other facilities and maternal health projects. In addition, MNH/Haiti supported the participation of one local Ob/Gyn to attend the MNH Program's global regional expert development course for the Caribbean/Latin America.

MNH/Haiti also supported the development of a model clinical training site, Hôpital Justinien in Cap Haïtien. MNH/Haiti strengthened this referral hospital in the North Department, which has 56 beds and 300–305 births per month, to become a model clinical training site for inservice EMNC training and care. Following an initial site assessment, intensive efforts were made during FY03 to develop a site action plan with assistance from a south-to-south exchange with MNH Africa Regional Experts developed under the MNH Program in Burkina Faso. Building on the Burkina Faso experience and using the performance and quality improvement approach, Hôpital Justinien developed a comprehensive site action plan focused on process and system improvements. During FY04, MNH/Haiti provided technical assistance to Hôpital Justinien for the implementation of this plan. During subsequent followup visits, many items in the action plan were found to have been implemented (see textbox, below).

Improvements in Services Achieved with MNH Program Support at Hôpital Justinien

- Antenatal care is now provided daily, and as a result of a staff initiative, client waiting time has been reduced by 50 percent.
- The hospital instituted a policy requiring that one healthcare provider be assigned to each client, thus helping to ensure continuity of care and woman-friendly care.
- The partograph is now used routinely during labor, and immediate skin-to-skin contact with the mother—including women who have had cesarean sections—is introduced directly after birth.
- Episiotomy is reportedly no longer a routine procedure.
- Active management of the third stage of labor has reportedly replaced "traditional" delivery of the placenta.
- Infection prevention practices have been improved. For example, staff wear goggles and plastic apron/gloves in the maternity ward, and decontamination is performed according to recommended practices, including use of the aquachlor machine for decontamination of instruments.
- The BP/CR matrix is displayed in strategic areas throughout the maternity ward.

In addition to the site action plan developed at Hôpital Justinien, each of the participants in the Clinical Skills Standardization course for Phase II expansion facilities held in April 2004 developed personal action plans for improving the quality of maternal and neonatal services at their facilities. A followup/coaching visit to participants at three of the five expansion facilities (five providers) revealed that four of five participants had completed initial steps for at least one of their action items. Each of the four had shared information with colleagues about active management of the third stage of labor, but only one had used the partograph since completing the training. Some had taken steps to introduce the use of birth planning in the antenatal clinics at their facilities. Because clinical skills training at Phase II expansion sites was only completed in the spring of 2004, it was too early to determine whether improved practices have truly taken hold and become the norm. However, observation and assessment of three of the five expansion sites 6 weeks after training in June 2004 revealed the following:

- Average knowledge score for maternal and neonatal care: 90.7 percent
- Average score for case study on partograph: 88.5 percent
- Average score for postpartum hemorrhage: 95.6 percent

Service usage data for maternity and antenatal care services were collected at baseline for each of the 10 MNH-assisted facilities and at followup for the five Phase 1 facilities. Average monthly attendance numbers are provided below in **Figures 12 and 13** for three of the five Phase I facilities.

Figure 12. Mean Number of Births per Month

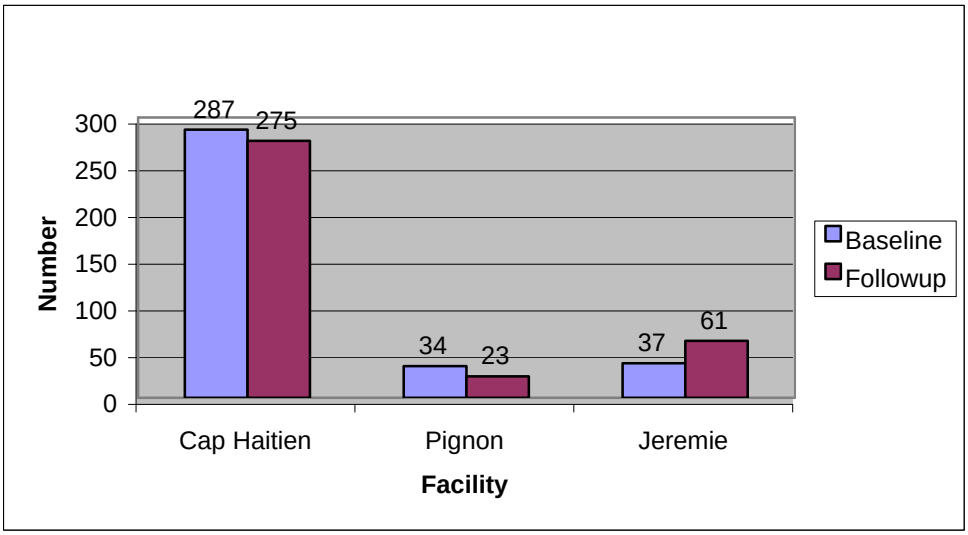
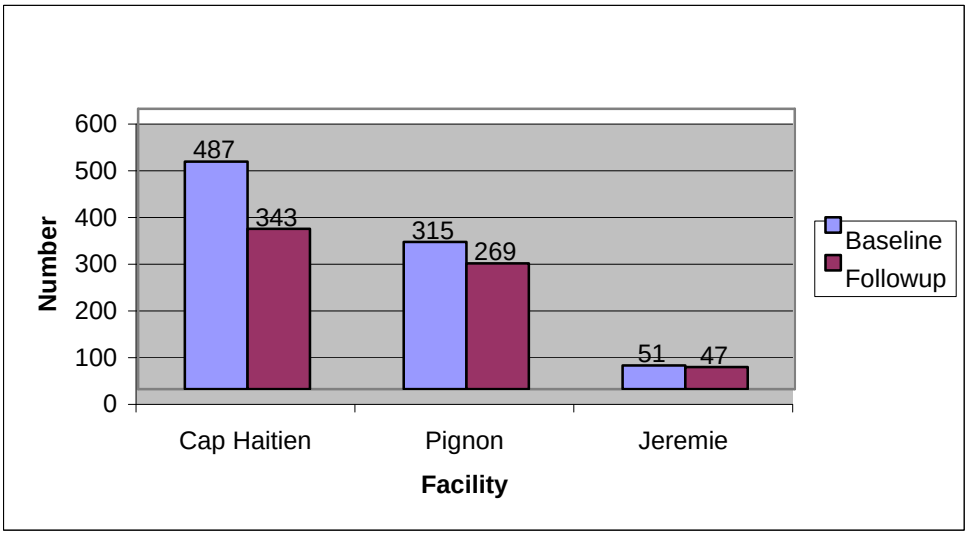


Figure 13. Mean Number of Antenatal Visits per Month



* Baseline data were collected from March to May 2002. Followup data were collected from September 2003 to March 2004 for Cap Haïtien and Jérémie, and January 2004 to May 2004 for Pignon.

The graphs reveal that maternity and antenatal service usage rates did not increase over the life of the MNH Program, with the exception of births at the departmental hospital in Jérémie, which showed a small increase. The latter increase is encouraging and may be explained by the training

and advocacy work using the BP/CR matrix carried out by MNH in partnership with HHF. Service use may not have increased at other facilities because of the short life of the MNH Program in Haiti and the political unrest in the country in spring 2004, when part of the followup data were collected.

Intermediate Result 3: Increase family and community planning for skilled care at every birth

Beginning in FY03, the MNH Program began implementing its BCI strategy. The BCI strategy focused mainly on strengthening community BP/CR in the selected regions and on increasing demand for high-quality maternal health services. This was the logical next step following MNH/Haiti's previous initiative to improve the availability and quality of EMNC in target hospitals. Birth planning contributes greatly to the safe motherhood movement in Haiti. It not only focuses on the individual woman and family that experiences a complication, but also highlights broader awareness that every pregnancy is a risk and that there are actual steps that can be undertaken even in very resource-limited areas. The strategy in Haiti worked to build consensus on the BP/CR actions that are possible at the community, family, and provider levels, and to shape these into messages that can be disseminated through outreach channels, which are already quite well developed in local collaborating NGOs. Specifically, the strategy was scaled up through partnership with the MOH, HHF, CDS, HS-2004, and the Hôpital Justinien in Cap Haïtien. The BP/CR matrix was also translated from French into Creole for use in community-level participatory discussions.

The key tool for implementing MNH/Haiti's IR3 has been the BP/CR matrix. The matrix was used in Haiti to guide planning efforts by the bilateral program HS-2004, which initiated maternal health educational materials development and training in the private sector. The MNH Program worked with HS-2004 to harmonize their materials with those used by the MNH Program. In addition, the MNH Program worked extensively with the Johns Hopkins University/Center for Communication Programs, a partner in HS-2004, to ensure that BCI activities in maternal health in both programs are coordinated and build upon each other to maximize results. The two programs worked together in support of the USAID and MOH initiative for the creation of department-level UCS. The BP/CR matrix has also been co-opted by the MOH, which took the initiative to provide input into the translation and has served as a catalyst for deeper MOH ownership. The ministry also requested that the BP/CR matrix be made available in all maternity wards across Haiti. In total, 5,000 pamphlets, 1,000 matrices, and 350 posters on BP/CR have been distributed in Haiti.

In Jérémie, MNH/Haiti partnered closely with HHF to introduce the MNH Program's clinical and BCI approach into their community health program. Clinical staff from HHF were trained in the MNH approach using the translated Creole version of the BP/CR matrix. They also adopted the matrix into a large-scale community health program. Using a comprehensive approach, HHF designed and implemented BP/CR matrix trainings for local decision makers, MOH representatives, communities, families, and women. Through group meetings and discussions, HHF was able to introduce, inform, and educate larger numbers of communities in their region about the importance of birth planning (see **Table 7**). The collaboration with HHF has broadened the reach of MNH/Haiti's BCI strategy through the use of the BP/CR matrix to increase the number of families and communities planning for skilled care at every birth.

Table 7. HHF Community Level BP/CR Matrix Trainings and Discussions

VENUE	LOCATION	NUMBER OF PARTICIPANTS
Health post	22 communities surrounding Jérémie	600
Dispensaries: staff training	6 dispensaries	13 staff members trained
Decision-makers	UCS 2	37
Healthcare providers	UCS 2	32
Health agents	UCS 2	35
Community leaders	Moron	48
Community leaders	Dayère	82
Community leaders	Bétouzé	91
Community leaders	Bigarade	87
Community leaders	Jérémie	87
Community leaders	Ile Blanche	83
Community leaders	Castillon	82
Mother's Day Celebration	Grand Anse Women's Association	700
Radio Spots: 1 hour interview on BP/CR matrix	Spot ran on five local radio stations over a 1-month period	Estimated 75% of Jeremie population (50,000) heard radio spot

Sustainability of MNH/Haiti Program Investment

Program achievements will be sustained in Haiti through the success of its deliberate collaborative approach, which fostered external ownership. The support and interest for the Program's approaches have been strong since its inception. Clearly, this has demonstrated impressive returns as seen in the adoption and use of clinical best practices (e.g., birth planning, use of the partograph, active management of the third stage of labor, immediate care of the newborn), WHO advancing with MCPC dissemination, the MOH and HHF assuming ownership of the BP/CR matrix, and the changes initiated at the MNH/Haiti's model training site in Cap Haïtien, where the Program leveraged not just temporary physical changes but has fostered leadership and institutional changes as well.

MNH/Haiti has established several key partnerships that have led to the transfer of ownership. The partnership with the MOH has allowed the Program to have a national reach and led to institutionalization of the MNH Program approach into national policies and strategies. INHSAC continues to be a central resource for trainers and healthcare providers developed under MNH/Haiti. Stakeholders can access these trainers and EMNC training packages. The Peace Corps also partnered with MNH/Haiti to introduce training for new volunteers in BP/CR using the MNH Program's BP/CR matrix. This training module is now a standard part of Peace Corps training.

The regional expert and core group of trainers developed under the MNH Program will ensure continued inservice training for both the public and private sectors. The Program has also developed an MNH regional expert, who has been able to transfer the Program approach not only to other healthcare providers, but to trainers as well.

The Program also invested in long-term solutions for the reduction of maternal mortality through participation in the development of national standards and guidelines and by supporting woman-friendly policies.

The tools used in the development of the model site at Hôpital Justinien in Cap Haïtien have already been translated into an action plan based on the performance and quality improvement approach. The hospital has taken ownership of the process and approaches introduced by MNH/Haiti. Scale-up of best practices will happen as medical residents rotate through the maternity ward and as other stakeholders begin to use the site for their own training. Dedicated and dynamic leadership at the hospital has also been a cornerstone in the institutionalization of best practices.

MNH/Haiti has strategically invested in demand generation from the community side through promotion of BP/CR. The Program's behavior change tools, such as the BP/CR matrix, have shown to be an enormously profitable investment for Haiti. The translated matrix has been adopted by a range of stakeholders including various government ministries and local NGOs such as HHF and Albert Schweitzer Hospital. This adaptation will continue beyond the end of the Program in both impact and scope.

Finally, the MNH Program launched the White Ribbon Alliance in Haiti. MNH/Haiti initially invited organizations that would be able to sustain the Alliance. The main active stakeholders in EMNC, the MOH, religious associations, and private sector organizations were all included in the creation and were charged with creating a secretariat and focused action plan.

HONDURAS

EXECUTIVE SUMMARY

The purpose of the Maternal and Neonatal Health (MNH) Program in Honduras was to support the Ministry of Health (MOH) in improving pregnancy outcomes for women and newborn babies in facility-based settings. In 1999, at the request of the MOH and USAID/Honduras, the MNH Program investigated hospital-based practices to analyze the magnitude of maternal mortality and the causes of maternal death at two key facilities, Hospital Mario Catarino Rivas (HMCR) in San Pedro Sula and Hospital Escuela (HE), the national teaching hospital, in Tegucigalpa. The results of the study provided the basis upon which MNH Program interventions in Honduras have been built. Specifically, MNH Program interventions were designed and implemented based on the country's maternal and neonatal mortality epidemiological profile, which showed a need to improve basic childbirth care and management of the main complications that occur during childbirth and pregnancy, as well as to improve care of the newborn.

MNH/Honduras used a comprehensive approach that encompassed two main components: strengthening preservice education in medical and nursing schools in essential maternal and neonatal care (EMNC), and improving performance and quality improvement (PQI) in six hospitals. In the area of preservice education, MNH/Honduras worked with medical schools to update their curricula (both technical, evidence-based components and teaching methodologies) and to improve their clinical sites in order to standardize care and achieve long-term change in provider practices and behavior related to maternal and neonatal care. PQI efforts focused on action—moving quickly from identifying performance gaps to implementing concrete changes—based on intervention plans written by PQI teams. These plans emphasized the following technical components: use of the partograph, restricted use of episiotomy, active management of the third stage of labor, restricted entry into labor and childbirth rooms, establishment of a special area for immediate postpartum care within the labor and childbirth ward, privacy in each patient area, and improved patient flow.

The cornerstone for both the PQI and preservice education components was the integration of evidence-based practices in maternal and neonatal care into the Official Norms and Protocols for Managing Obstetric Emergencies. Thus, MNH/Honduras facilitated the establishment of Norms Technical Review Groups (GEN, in Spanish) that conducted a comprehensive review of existing norms and protocols related to maternal and neonatal health, and updated the National Maternal and Neonatal Care Norms.

An additional focus was the establishment of a facility-level epidemiological surveillance system that could strengthen the availability of data available for decision-making for managers, and the creation of maternal morbidity and mortality committees at the national teaching hospital, Hospital Escuela. The system design effort promoted the availability of information for analysis of basic maternal and neonatal healthcare and patient outcomes through the synthesis of a continuum of available hospital data.

In FY00 and FY01, MNH/Honduras provided limited assistance, through global core funds, to a Johns Hopkins University Population Communication Services (JHU/PCS) project in the MOH's Integrated Women's Health Campaign. This demand-related work was geared toward ensuring

that maternal and neonatal health materials and messages prepared by the MOH (with support from JHU/PCS) were technically accurate and used evidence-based practices and approaches.

MNH Program Legacy Statements

Establishes and promotes international evidence-based standards for essential maternal and newborn care through global partnerships

Key to the development and implementation of the MNH Program in Honduras has been the collaboration and partnership with the MOH. In addition, MNH/Honduras collaborated with other USAID Cooperating Agencies (Quality Assurance Project, EngenderHealth, BASICS II, Partners for Health Reform) to promote the adoption and implementation of high-quality healthcare practices in essential maternal and neonatal health through the development of the national EMNC norms.

The MOH initially commissioned the development of an addendum to the Honduran maternal and neonatal norms. However, the MOH opted for developing and implementing official Essential Maternal and Neonatal Healthcare National Norms. The WHO's *Managing Complications in Pregnancy and Childbirth* and *Management of the Sick Newborn* manuals were used, as they are the most up-to-date evidence-based materials available. A norms development team (GEN, with MNH/Honduras, Universidad Autónoma de Honduras, PAHO, and MOH representatives) was organized and officially established by the Vice Minister of Health. GEN developed the norms that are now in the final stage, with printing expected prior to the official closeout of the MNH Program in Honduras.

MNH/Honduras fostered the development of a technical advisory group (TAG) and a Curriculum Strengthening Group (CSG) to ensure that the changes the MNH Program proposed in preservice strengthening processes were appropriate and properly reviewed at the medical school. The TAG, which includes representatives from the MOH, UNAH, Medical Council, Ob/Gyn Society, and other stakeholders, was instrumental in assuring that the curriculum changes matched the occupational and epidemiological profile needed in Honduras. The CSG, consisting of UNAH faculty, clinical preceptors, and other key stakeholders was integrally involved in curriculum development and implementation.

Improves the quality of skilled attendance by implementing international evidence-based standards and guidelines in national policy, curricula and competency-based training

MNH/Honduras partnered with PAHO to develop a learning package for use of the CLAP/PAHO partograph. This package was incorporated into the clinical skills courses carried out under MNH/Honduras and is included in the preservice learning package developed and promoted under the Program.

Scales up evidence-based safe motherhood practices, tools and approaches by collaborating with global and national partners

MNH/Honduras conducted two new activities during 2004 in order to fulfill a special request from the MOH. The Program conducted a condensed 3-day PQI and EMNC workshop for the Maternal and Neonatal Morbidity and Mortality Committee appointed by the MOH and integrated technical staff from the Quality Assurance, Maternal Health, Hospital, Statistics, and

Epidemiological Surveillance Units. The training included PQI methodology and an orientation to EMNC training processes, methodology, and content. This event was supported to improve the MOH's ability to expand, institutionalize, and sustain the PQI process in selected healthcare facilities in other health regions of the country (selected based on their high maternal and neonatal mortality rates, access to high-quality services, and geographical area).

As part of the MNH Program's Regional Experts Development Initiative to enhance the clinical and training skills of health professionals in EMNC, two Honduran physicians and one nurse were trained as Regional Experts. As such, these skilled individuals supported MNH/Honduras EMNC training activities and are currently using updated knowledge in their workplaces.

COUNTRY PROGRAM RESULTS

Justification for Program Presence

In 1999, the MOH of Honduras requested the assistance of the MNH Program in conducting death reviews and carrying out facility assessments of two hospitals in the country: HMCR in San Pedro Sula and Hospital Escuela, a teaching hospital, in Tegucigalpa. As a result of the evaluation, the Program made recommendations in the areas of management, infection prevention practices, hospital staffing patterns, epidemiological surveillance systems, availability of resources and equipment, and use of protocols for standardized care.

In order to maximize resources and ensure a focused and sustainable program approach, the MNH Program focused its interventions in specific areas in the first half of FY01. These hospital-based interventions in the service delivery area included standardization in the management of obstetric complications through the development and implementation of verification checklists based on national protocols. Another key intervention was the development of an epidemiological surveillance system to ensure informed decision-making, with regard to the quality of maternal and neonatal care provided in the national teaching hospital.

In mid-FY01, at the request of USAID/Honduras and as result of increased funding, MNH/Honduras refocused its workplan to encompass broader components, including the PQI process in Hospital del Occidente in Santa Rosa de Copán (HSRC), a secondary care facility located in Health Region 5. In addition, a preservice education component was added to strengthen maternal and neonatal healthcare in the medical school curricula.

At the request of the MOH, Health Region 5, and Partners for Health Reform representatives, beginning in year four (FY02), PQI was expanded to include two additional Health Region 5 hospitals. Three Health Region 2 hospitals were added to the MNH/Honduras scope of work at the request of USAID/Honduras and Health Region 2 authorities, bringing the total to six hospitals in Health Regions 2 and 5, with the goal of improving maternal and neonatal health in additional health facilities.

Supported by USAID and Hospital Escuela, MNH/Honduras worked to address the need for a better intra-hospital information system. The Program worked with Hospital Escuela to develop and test a pilot database that could analyze basic maternal and neonatal healthcare and patient outcomes through a computerized, hospital epidemiological surveillance system. Although the process of system development was instructive to decision-makers on the types of indicators

needed to manage the Ob/Gyn department and monitor intra-hospital morbidity and mortality statistics, the system implementation was not successful because of competing demands on hospital staff and residents who did not have sufficient time to maintain a complete and updated electronic epidemiological database.

Strategic Statement

Strategic Objective: Improve pregnancy outcomes for women and newborns in facility-based settings

Intermediate Result 1: Improved epidemiological surveillance systems utilized for decision making at the facility level

Intermediate Result 2: Performance and quality improved at peripheral hospitals

Intermediate Result 3: Strengthened preservice education in Essential Maternal Neonatal Care for the medical and nursing schools

Program Approach

Key results from the 1999–2000 maternal mortality study conducted at Hospital Mario Catarino Rivas and Hospital Escuela revealed the need for standardized management of care, lack of decision-making statistics, key causes of maternal death (hemorrhage, infection, eclampsia), and the preventable nature of most maternal deaths. Thus, MNH Program interventions were designed and implemented based on the country's maternal and neonatal mortality epidemiological profile, which showed a need to improve basic childbirth care, management of the main complications that occur during childbirth and pregnancy, and management of care the newborn.

MNH/Honduras worked to improve hospital-level maternal and neonatal morbidity and the mortality epidemiological surveillance system at the national teaching hospital, Hospital Escuela. A pilot surveillance system that would allow data entry and archiving, as well as standard report generation for decision-making by the Ob/Gyn service within the hospital, was created. This system was planned to allow Hospital Escuela the ability to develop and share reports with the MOH on key indicators such as number of births, maternal complications, and perinatal deaths. MNH/Honduras worked with the Ob/Gyn department, the medical residency program managers, and residents to design an optimal system. An analysis of maternal death medical record reviews, review of routine hospital statistical reports, as well as epidemiological surveillance system reports was undertaken for planning interventions under this component. However, by early 2004, pilot test results made clear that human resources available at Hospital Escuela were not sufficient to maintain the system. A stakeholder meeting was held in April 2004 with participants from USAID, the MOH, and Hospital Escuela, at which the MNH Program presented pilot test results and made technical recommendations. Other parallel information systems initiatives in the same hospital were presented by PAHO and the Hospital Escuela Epidemiology Department. A decision was made to abandon the system developed by the MNH Program in order to concentrate hospital staff efforts on maintaining the existing paper and electronic data systems housed in the Epidemiology Department. Followup after the stakeholder meeting revealed that the reports needed by the Ob/Gyn Department were available in the local hospital system, so the

end result was positive in that the MNH Program brought together previously distant colleagues for the shared purpose of using data for decision-making within the national teaching hospital.

The key element of the Program's preservice intervention in Honduras was the revision of the Ob/Gyn and pediatric medical school curricula and the maternal and neonatal health component of the nursing curriculum. Also, as part of the preservice component, faculty members and clinical preceptors from medical and nursing schools were trained in EMNC clinical skills, clinical training skills, and instructional design (co-funded with the MOH). Efforts to strengthen preservice education in essential maternal and neonatal care in Honduran medical and nursing schools were carried out in the following project areas:

- Universidad Nacional Autonoma de Honduras (UNAH) Medical School (fifth- and seventh-year medical students)
- UNAH nursing schools:
  - UNAH (main campus) Nursing School
  - Centro Universitario Regional del Norte, San Pedro Sula (CURN) Nursing School
  - Centro Universitario Regional del Litoral Atlántico, La Ceiba (CURLA) Nursing School
- UNAH clinical training sites (seventh-year medical students):
  - Hospital Regional de Atlantida, La Ceiba
  - Hospital Regional de Occidente, Santa Rosa de Copan
  - Hospital Regional del Sur, Choluteca
  - Hospital Mario Catarino Rivas, San Pedro Sula
  - Hospital Escuela, Tegucigalpa

Table 8. MNH/Honduras Program Hospitals (PQI)

HOSPITAL	LOCATION AND MOH HEALTH REGION
Hospital Regional del Occidente (HRO)	Santa Rosa de Copan, Region 5
Hospital de Área Juan Manuel Gálvez (HJMG)	Gracias, Region 5
Hospital de Área San Marcos de Ocotepeque (HSMO)	San Marcos, Region 5
Hospital Regional Santa Teresa de Comayagua (HSTC)	Comayagua, Region 2
Hospital de Área Dr. Roberto Suazo Córdova (HRSC)	La Paz, Region 2
Hospital de Área Dr. Enrique Aguilar Cerrato (HEAC)	Intibuca, Region 2

Underscoring the need to ensure a high quality of care at the facility level, Program efforts were focused on strengthening tertiary healthcare delivery, eventually in six hospitals (see **Table 8**) in two of the country's most vulnerable regions, Regions 2 and 5. These hospitals have a catchment population of more than 284,000 women of reproductive age. These regions are characterized as mostly rural, with difficult access to health services. Their maternal mortality ratios are among the highest in the country. Region 2 has a maternal mortality ratio of 122 deaths per 100,000 live births, and Region 5 has 130 maternal deaths per 100,000 live births (the national average is 108). In these two regions, MNH/Honduras implemented PQI, with a strong emphasis on improving infection prevention practices and preventing maternal and neonatal deaths due to complications.

The cornerstone for both components was the integration of new evidence-based practices in maternal and neonatal care. As such, MNH/Honduras provided support to the MOH and the Technical Review Team to revise and update the Honduran Essential Maternal and Neonatal Care (EMNC) National Norms and Protocols in collaboration with key stakeholders from the MOH, the national medical school, donors, and Cooperating Agencies.

MNH/Honduras is institutionalizing best practices in essential maternal and neonatal care by revising the national clinical norms and protocols for managing complications during pregnancy and childbirth, guided by recent advances in evidence-based medicine reflected in the WHO manual *Managing Complications in Pregnancy and Childbirth* (*MCPC*). Based on the revised norms and protocols and evidence-based standards and guidelines, MNH/Honduras is strengthening preservice education at the UNAH medical and nursing schools and three of the medical school's clinical sites by revising the Ob/Gyn and pediatric medical school curricula, as well as the maternal and neonatal health component of the nursing curriculum.

Initially, the official Norms were revised and updated with the collaboration of key stakeholders from the MOH, the national medical school, and Cooperating Agencies. However, the MOH decided to develop a comprehensive document that would include normal maternal and newborn care. MNH/Honduras successfully completed the development of the National Norms, a document of significant value to the MOH as it contains the latest evidence-based practices in this area. The document is currently undergoing final review by the MOH, and the document should be printed before MNH/Honduras closeout.

Interventions and Results by Intermediate Result

Intermediate Result 1: Improved epidemiological surveillance systems utilized for decision-making at the facility level

The pilot phase of the development of the Microsoft Access-based epidemiological surveillance system database was completed in February 2004. Along with this process, a new form for collecting patient information was developed and implemented. A draft user's guide manual was also developed.

One key indicator under this component is the coverage of the epidemiological surveillance system database. Although results varied over time, **Table 9** below shows the number and percentage of all cases entered into the Hospital Escuela epidemiological surveillance system between 1 September and 30 November 2003. During this time, 718 cases with valid admission and discharge dates were entered into the system. However, 5,172 women were treated and discharged from Hospital Escuela during this period. The total percentage of all hospital cases entered is 14 percent; thus, use of the system did not meet the goals, which were primarily to obtain epidemiological rates, such as case fatality and morbidity trends, by diagnosis. The key limitations identified were the following:

- Data entry by residents (difficult to prioritize data entry when faced with multiple responsibilities, mostly related to patient care)
- Availability of only two computers at limited time periods for data entry

- Cohorts of residents rotating through Hospital Escuela twice per year, complicating sustainability by requiring training to be held for each new cohort with little or no overlap with previously trained cohorts of residents
- Limited hospital staff available for data entry

Table 9. Summary of Data Entry for Pilot Study, Hospital Escuela

MONTH	NUMBER OF DAYS	NUMBER OF HOSPITAL DISCHARGES	NUMBER OF CASES ENTERED	PERCENTAGE OF CASES ENTERED
September 2003	30	1,683	282	17%
October 2003	31	1,788	432	24%
November 2003	30	1,701	4	0.2%
TOTAL	**91**	**5,172**	**718**	**14%**

Although the database designed by the MNH Program could produce many reports[39], the underlying data were so incomplete (see **Table 9** above) that these reports could not be interpreted as providing indicators of trends in morbidity or mortality or for decision-making regarding quality of care at the hospital. The ultimate decision for the Ob/Gyn department to depend on an existing information system in the Epidemiology Department of the same hospital was ultimately taken because the Ob/Gyn department could not sustain the new system from the MNH Program. The lessons learned include that staff support for computerized data systems cannot be emphasized enough when embarking on such initiatives. A minimum amount of staff time should be a required investment by partner institutions for future USAID investments of this sort.

Intermediate Result 2: Performance and quality improved at peripheral hospitals

MNH/Honduras has tracked several indicators related to the following life-saving and quality-enhancing practices: use of the partograph, restricted use of episiotomy, active management of the third stage of labor, restricted entry to the labor and childbirth room, establishment of a special area for immediate postpartum care within the labor and childbirth ward, privacy in each patient area, and improved patient flow. The execution of PQI intervention plans has also produced impressive results.

MNH Program training introduced the practices of active management of the third stage of labor and restricted use of episiotomy. Although organization of supplies and equipment has improved in many hospitals, a national intervention is needed to improve the supply chain for oxytocin (historically, oxytocin supplies have only been procured in amounts necessary for the induction of labor), which is needed for prevention of postpartum hemorrhage. Motivated by the PQI work sponsored by MNH/Honduras, the MOH Woman's Health Care Program worked with the Medications and Supplies Division at the MOH to acquire sufficient oxytocin for use in active

[39] Number of Cases Entered, by Date of Admission; Number of Cases Entered, by Date of Discharge; Data Entered, by Resident; Percentage of Cases Entered by Ward; Percentage of Cases Entered by Ward Admitted To, Percentage of Cases Entered by Ward Released From; Patients by Residence (municipality); Weeks of Gestation for Childbirth Cases; Obstetric Stage upon Admission, Childbirth Cases; Selected Procedures Performed on Childbirth Cases; Percentage of Childbirth Patients that Pass through Each Ward; Number of Pregnancies and Births, Childbirth Cases; Percentage of Births Attended, by Provider Type; Partograph Usage and Referral Rates, Childbirth Cases; Level of Facility to which Childbirth Patients were Referred.

management of the third stage of labor in the 200,000 births expected in 2004. These systemic improvements occurred as a result of the changes in EMNC norms and because of performance measurement and detailed intervention plans formed in the PQI process. The improvements are also demonstrative of the types of changes that can have a great impact on maternal mortality rates in the country.

MNH/Honduras was also instrumental in introducing and promoting consistent use of updated Birth Register logbooks at the six Program hospitals. Recording key labor and childbirth data in these birth registers makes facility-based monitoring of important maternal and neonatal health indicators possible. Birth register logbook data recorded in labor and childbirth wards at six hospitals in Regions 2 and 5 from October 2003 through June 2004 show how routine management of obstetric cases is proceeding over time. These hospitals attended a total of 13,110 births during this time, 2,177 of which were cesarean sections (16.6 percent cesarean index). About half of all primiparous women received episiotomies, which compares favorably with a recently published Latin American hospital range of 69–92 percent (CLAP/PAHO). Clinicians used active management of the third stage of labor for 93 percent of all vaginal deliveries and placed 83 percent of all newborn babies in immediate skin-to-skin contact with their mothers during this time period.

Between November 2001 and November 2003, the MNH Program trained 136 healthcare providers in clinical skills—28 of them attended infection prevention training, and 113 completed EMNC training. Between April 2002 and January 2004, 57 providers were trained in the PQI process, with a focus on infection prevention. The MNH Program developed 35 clinical trainers by holding two training skills courses in 2002 and 2003. Twenty-two participants attended the clinical training skills course, and 17 attended the instructional design course.

Although PQI was carried out in a proportionally small number of health facilities (and Health Areas), success has been achieved in each technical area within these sites. Three hospitals from each region participated (Regions 2 and 5). Region 5 experienced an overall improvement in quality of EMNC from 19 percent of criteria achieved in 2001 to 58 percent achieved in 2003. In Region 2, where PQI process implementation started a year later, the changes went from 19 percent in 2002 to 36 percent of criteria achieved in 2003. Within labor and childbirth care, hospitals showed an improvement from an average of 8 percent of quality criteria achieved at baseline to 44 percent achieved during the 2003 observation. The infection prevention results for these observations showed a growth from 9 percent to 42 percent. Care during pregnancy was measured at 0 percent at baseline and increased to 56 percent during the last observation.

Additional efforts to expand the PQI methodology could have a great impact on improving the quality of care for women and babies. In hope of supporting further expansion, MNH/Honduras provided an orientation to the central-level MOH, so that MOH staff can carry out initial baseline PQI evaluations in several new sites.

Intermediate Result 3: Strengthened preservice education in Essential Maternal Neonatal Care for the medical and nursing schools

As described in the previous IR, numerous faculty members and clinical preceptors from medical and nursing schools were trained in EMNC clinical skills, clinical training skills, and instructional design.

In the instructional design course offered under the MNH Program in Honduras, the essential competencies for medical and nursing school students prior to clinical practice were established based on updated norms. As part of a learning resource package for both medical and nursing schools, a learning guide, skills checklists, case studies, clinical simulations, and role plays were developed based on vital maternal and neonatal knowledge and competencies. By the end of the Program, a teaching laboratory at the UNAH Medical and Nursing Schools will be equipped with anatomic models for normal and complicated labor and childbirth skills as well as normal and complicated newborn care management.

Sustainability of MNH/Honduras Program Investment

The resources and materials left in place by the MNH Program in Honduras provide a fundamental platform from which future work related to maternal and neonatal health can continue. The National Maternal and Neonatal Care Norms serve as a solid guide for policies and protocols. The individuals involved in the development of these norms are firmly entrenched in key institutions (teaching hospitals, universities, and the MOH) and can continue to support their use. The progress made in revising preservice guidelines and curricula are also important to sustain better education in maternal and neonatal healthcare, and can contribute to better oriented medical and nursing students over time. The PQI methodology has shown promising results, demonstrating the acceptance by local quality teams and likely behavior changes related to the provision of high-quality services at six hospitals. The long-term impact and sustainability of PQI is promising because the central-level MOH has been oriented to the PQI methodology. A Microsoft Access database housing summary-level indicators from the PQI assessments at the six hospitals in Regions 2 and 5 is being transferred to the MOH as part of MNH Program close-out. Lastly, new working relationships at Hospital Escuela promise to maintain progress made in the area of epidemiological surveillance. The work of the MNH Program helped the Ob/Gyn Department at Hospital Escuela appreciate data for decision-making, as well as the importance of coordination with the Epidemiology Department on epidemiological surveillance and information systems.

PERU 2000–2002

EXECUTIVE SUMMARY

The Maternal and Neonatal Health Program in Peru (MNH/Peru) was implemented in close collaboration with JHPIEGO's Training in Reproductive Health (TRH) Project. Its purpose was to contribute to improved maternal and newborn health by strengthening medical and midwifery education and training, and by improving the safe motherhood policy environment through updating and dissemination of the national reproductive health service delivery guidelines.

The major achievement of the MNH Program in Peru was the strengthening of preservice education and training in essential maternal and neonatal care (EMNC) in 17 medical schools, 15 midwifery schools, and their associated clinical training sites. MNH/Peru preservice efforts assisted the medical and midwifery schools with the revision of the EMNC components of their curricula to ensure that medical and midwifery students graduate with the knowledge and clinical skills necessary to immediately provide the maternal and newborn healthcare services offered by Ministry of Health (MOH) facilities. MNH/Peru also helped to strengthen student competence through the introduction of competency-based clinical training in midwifery and medical schools.

These schools and their clinical training sites, in collaboration with the MOH and EsSalud (the Peruvian Social Security Institute), identified key competencies, or sets of skills, that should be required of all medical and midwifery graduates. The teaching of these competencies was then reorganized in accordance with the tenets of the competency-based approach, including the use of anatomic models to practice key skills, such as the management of normal childbirth and newborn care. Using anatomic models to ensure that students are competently performing clinical skills on models before practicing these skills with actual clients or patients also reinforces a humanistic approach to training and emphasizes clients' rights. Another central element of the competency-based approach is the use of learning guides and checklists to promote the transfer of clinical skills to students, and to promote the objective evaluation of students' clinical skills in the core maternal and newborn healthcare competencies. The learning guides and checklists have been successfully implemented in the schools of medicine and midwifery that MNH/Peru supported, but they can also be used in other schools throughout the country.

To ensure that the clinical practice to which students were exposed during their clinical rotations was consistent with the content of the revised curricula, MNH/Peru also worked to standardize EMNC clinical practice at teaching hospitals and other clinical training sites affiliated with the medical and midwifery schools. MNH/Peru updated and standardized the EMNC knowledge and clinical skills of 51 health professionals, including 28 ob/gyns and 23 midwives, working at teaching hospitals and other clinical training sites. The standardization activities focused on transferring the updated practices outlined in international consensus documents, such as the World Health Organization's (WHO) *Managing Complications in Pregnancy and Childbirth (MCPC*) manual, to the clinical preceptors who are responsible for supervising medical and midwifery students during their clinical rotations.

As a result of these activities, seven hospitals in Lima and nine in other parts of the country have implemented evidence-based practices, including the active management of the third stage of

labor, restrictive episiotomy, and improved immediate care of the normal newborn. The WHO partograph has also been implemented on a more limited basis. These hospitals are also incorporating best practices for the management of obstetric and neonatal complications (including management of pre-eclampsia/eclampsia and newborn resuscitation) in their healthcare facilities.

MNH/Peru also worked closely with TRH/Peru and the MOH to update the national reproductive health service delivery guidelines, which were originally developed and published with JHPIEGO support in 1997. These comprehensive guidelines cover topics such as EMNC, family planning, sexually transmitted infections, breast and cervical cancer screening, adolescent reproductive health, and domestic violence. MNH/Peru guided the development of the maternal and perinatal health section of the guidelines, which has been revised to include new evidence-based practices, such as active management of the third stage of labor and improved practices for the management of pre-eclampsia/eclampsia. At present, the publication of the guidelines is on hold pending the resolution of issues surrounding controversial topics such as manual vacuum aspiration for the management of incomplete abortion, the mechanism of action of the copper-T 380A IUD, and the effectiveness of the Billings method of fertility awareness. Once these issues are resolved, the guidelines will be published and widely distributed to preservice and service delivery institutions.

The MNH Program in Peru has improved the ability of preservice institutions, including medical schools, midwifery schools, and their affiliated clinical training sites, to develop healthcare professionals who are capable of providing high-quality care to Peruvian women and their newborns. MNH/Peru has also, in collaboration with TRH/Peru, developed comprehensive, up-to-date service delivery guidelines in EMNC.

The MNH Program Legacy

MNH/Peru has reinforced the MNH Program's global legacy, particularly the Program's first two legacy statements, through its Program strategy and related activities.

Establishing and promoting international evidence-based standards for essential maternal and newborn care through global partnerships

MNH/Peru has successfully collaborated with the MOH and with medical and midwifery schools and their affiliated clinical training sites to incorporate international evidence-based standards of EMNC into preservice education and training institutions. Activities contributed to the continued strengthening of Peru's reproductive health environment through the revision, in collaboration with TRH, of the second edition of the *National Guidelines for the Basic Care of Women and Common Pathologies in Newborns*, incorporating the international evidence-based standards for essential maternal and newborn care.

Improving the quality of skilled attendance by implementing international evidence-based standards and guidelines in national policy, curricula, and competency-based training

MNH/Peru has supported the MOH in its efforts to improve service delivery by strengthening the preservice education system and curriculum to include training in essential obstetric skills, focused antenatal care, and management of obstetric emergencies. Faculty and clinical preceptors participated in trainings to strengthen their knowledge and clinical skills; learning

guides and checklists were developed and distributed to the medical and midwifery schools; and medical and midwifery school students participated in competency-based training sessions with anatomic models.

As a result, active management of the third stage of labor is becoming widely accepted by healthcare providers in Peru, and ob/gyns are increasingly making care of the newborn a part of their responsibilities. In addition to implementing practices that promote maternal and newborn survival, MNH/Peru has been able to improve the overall quality of maternal and newborn care. For example, shaving, enemas, intravenous fluids, and episiotomies are no longer routine practices during labor and childbirth. In many facilities, women can now have their partner or another support person accompany them during labor and childbirth, and they can also drink fluids and choose a variety of labor and birthing positions. Although these improvements in quality of care are not life-saving in and of themselves, making birth in healthcare facilities a more comfortable and client-oriented experience will encourage more women to seek out skilled care.

By implementing evidence-based best practices in maternal and newborn health in 15 midwifery and 17 medical preservice institutions, MNH/Peru has been able to promote the transfer of these practices to successive cohorts of healthcare providers. In addition, by working closely with USAID/Peru and Proyecto Cobertura con Calidad (the bilateral project between the MOH and USAID/Peru), the MNH Program has been able to maximize the investment in clinical training and facilitate the institutionalization of the new evidence-based practices.

An additional legacy of the MNH Program in Peru is improved coordination between the schools of medicine and midwifery and the healthcare facilities where students do their clinical rotations. By including both faculty and clinical preceptors in training and other activities, MNH/Peru has facilitated the implementation of the revised curricula and the competency-based approach to training at both the schools and the clinical training sites. This has helped to ensure that the knowledge and skills gained from faculty during the early years of medical and midwifery education are reinforced during the clinical rotations by the clinical preceptors.

COUNTRY PROGRAM RESULTS

Justification for Program Presence

Maternal and perinatal mortality is a significant public health problem in Peru. Complications during pregnancy, labor and birth, and the postpartum and neonatal periods are significant causes of preventable mortality in the country. The maternal mortality ratio was estimated to be 261 per 100,000 live births in 1992, 265 per 100,000 live births in 1996, and 185 per 100,000 live births in 2000 (DHS data). Despite the apparent decrease, Peru still has one of the highest maternal mortality ratios in Latin America. The Peruvian MOH considers maternal and newborn health a national priority and has been making considerable efforts to promote safe motherhood and improved newborn survival. The MOH is in the process of health sector reform, placing emphasis on quality, integrated healthcare, and the maximization of existing resources. The Government of Peru and the MOH identified the reduction of the maternal mortality ratio to 100 per 100,000 live births as a priority for the year 2002. In order to achieve these goals, sufficient institutional capacity must exist to adequately manage available resources at different levels of the healthcare system, particularly through timely and appropriate evidence-based decision-making.

Since 1994, JHPIEGO has worked closely with the central level MOH and universities to build a sustainable program. The development of Peruvian human resources at the preservice and national levels and the health sector reform process provided JHPIEGO's foundation for the development of an integrated reproductive health program.

In early 2000, JHPIEGO initiated discussions with USAID and the Peru MOH to identify strategies to help the preservice program attain sustainability nationwide. They decided that the MNH Program would participate, expanding the activities, resources, and tools already created and implemented by the TRH Project. The plan included the introduction of essential obstetric skills and evidence-based practices such as focused antenatal care, active management of the third stage of labor, and restriction of episiotomy.

Also in 2000, the MOH, in collaboration with EsSalud, the Medical College of Peru, and the College of Midwives of Peru, identified the EMNC skills that physicians and midwives must have by the end of their professional training. All of the activities conducted with the MOH, the medical and midwifery schools, and their clinical training sites served to strengthen the transfer of these skills to medical and midwifery students, Peru's future providers of EMNC.

Strategic Statement

MNH/Peru established the following strategic plan and intermediate results:

Strategic Objective: To contribute to the reduction of maternal and neonatal mortality in Peru through the strengthening of preservice education and clinical training

Intermediate Result 1: Improved maternal and neonatal health policy environment through dissemination of national reproductive health guidelines

Intermediate Result 2: Strengthened ob/gyn component of preservice education in medical and midwifery schools

Programming Approach

The MNH Program in Peru was designed to respond to maternal and neonatal healthcare needs identified by the MOH, medical and midwifery schools, and other key stakeholders, including the colleges of medicine and midwifery. These stakeholders identified the need to ensure that medical and midwifery students graduate with the clinical skills necessary to provide high-quality maternal and neonatal healthcare. These skills or competencies include antenatal care, postpartum care, management of labor and childbirth, the immediate care of the newborn, and the management of the most common obstetrical emergencies, including postpartum hemorrhage (uterine atony, retained placenta, cervical or vaginoperineal tears) and shock, pre-eclampsia/eclampsia, sepsis, mastitis, and breast abscess.

MNH/Peru worked at medical and midwifery schools and their affiliated clinical training sites located in eighteen of Peru's 24 departments. Over the course of the project, MNH/Peru trained professionals representing 17 medical schools, 15 midwifery schools, 32 hospitals, and five health centers. A list of institutions that MNH/Peru supported is included in the **Appendix** (page 179).

MNH/Peru used a competency-based approach to strengthen preservice education and clinical training at the medical and midwifery schools and their affiliated training sites. The approach incorporated evidence-based practices based on international consensus documents such as the WHO manual, *Managing Complications in Pregnancy and Childbirth.*

The Program also incorporated JHPIEGO's humanistic approach to training, emphasizing the use of anatomic models to protect the rights of clients by ensuring the competency of those being trained before they move on to practice with clients. Learning guides and checklists were used to facilitate coaching and the transfer of clinical skills, and to standardize the evaluation of students' clinical skills. In addition, activities to strengthen teaching included the promotion of interactive and participatory methodologies including illustrated conferences, small group work, case studies, role plays, and demonstrations.

Interventions and Results by Intermediate Result

Intermediate Result 1: Improved maternal and neonatal health policy environment through dissemination of national reproductive health guidelines

***National Guidelines for the Basic Care of Women and Common Pathologies in Newborns* (previously called *National Guidelines for Reproductive Health Care*)**

MNH/Peru, in collaboration with TRH/Peru and a large number of stakeholders, including the MOH, EsSalud, Proyecto 2000 (bilateral between the MOH and USAID/Peru), the Medical College of Peru, the College of Midwives of Peru, representatives from hospitals and health centers in Lima and other health areas, and faculty from the schools of medicine and midwifery, worked to develop a second edition of the national reproductive health service delivery guidelines, which were originally developed in 1997. These comprehensive guidelines cover a wide range of reproductive health topics, including maternal and neonatal health, family planning, management of sexually transmitted infections, and cervical and breast cancer screening. Major changes to the maternal and neonatal health section of the guidelines include the incorporation of active management of the third stage of labor and strategies for improved management of pre-eclampsia/eclampsia.

After the guidelines were updated, they were reviewed by several authorities in the General Bureau of Public Health of the Ministry of Health and validated at a number of hospitals and health centers in the cities of Lima and Callao. In 2001 the document was presented to the MOH for formal approval. Since that time, a number of important changes have been made to the document, based on observations of the MOH. However, three subjects of controversy remain: manual vacuum aspiration, the mechanism of action for the Copper T 380A IUD, and the effectiveness rate of the Billings method. These points of controversy have prevented the Ministry from approving the guidelines. The MOH has requested the diskette version of the guidelines so that additional changes could be made by the MOH, without the guidance of JHPIEGO.

The success of the *Guidelines* can be attributed to the demand that existed at the university and service delivery levels for such a document. The writing, revising, and validation of this document brought together an important group of people and institutions. The most recent version of the guidelines incorporates maternal and neonatal healthcare and includes recommendations based on the most current evidence available. The success of the *Guidelines* is

evident in the selfless participation of many professionals in their development, and the extensive use of the document in universities, training facilities, and healthcare centers.

This success will be maintained if the MOH assumes the responsibility of periodically editing the document, and if universities and health facilities accept that it is a document that guarantees the best performance of its professionals.

Strategic Partnerships with Other Institutions

One key to the success of the MNH Program in Peru has been its strategic partnerships with other institutions working to improve maternal and newborn health in Peru. These partnerships enabled MNH/Peru to maximize its financial resources and to expand the scope of its activities in Peru. The first such strategic partnership was an agreement between JHPIEGO and UNFPA/Peru to conduct the First Macroregional Training Course for the Central Region in November of 2001 in Lima. A group of 16 medical and midwifery faculty participated in this course, which updated knowledge and standardized clinical skills in accordance with international standards such as the *MCPC* manual.

Second, MNH/Peru negotiated and obtained an agreement of mutual cooperation with Projecto Cobertura con Calidad, a bilateral project between the MOH and USAID/Peru that allowed the second macroregional course to be conducted for the Northern Macroregion in Trujillo in February 2002 and the third macroregional course to be conducted for the Southern Macroregion, in the city of Arequipa. Fifteen medical and midwifery faculty were trained in Trujillo and 20 were trained in Arequipa.

The alliances with UNFPA and Proyecto Cobertura con Calidad strengthened the ability of all the institutions involved to scale up maternal and neonatal health activities in the country.

Intermediate Result 2: Strengthening of the obstetric component of preservice education in medical schools

Learning Guides and Checklists

In order to facilitate the acquisition of core EMNC competencies by medical and midwifery students, MNH/Peru, in collaboration with MNH/Baltimore, developed learning guides and checklists for each of the core competencies. Copies of the learning guides and checklists have been sent to each of the 17 medical and 15 midwifery schools, where they will be disseminated to both faculty and students. To date, the learning guides and checklists have been successfully implemented in 10 schools. Faculty and clinical preceptors use them to ensure that the core EMNC competencies are being taught. However, they are not yet officially used by the universities to assess student competency as a requirement of graduation, because this would require a change in the grading system and needs approval from the University Consortium.

Standardization of knowledge and clinical skills in the faculty who teach in the clinical services in medical and midwifery schools

To ensure that the clinical practice of faculty and clinical preceptors was consistent with the new content being taught at the medical and midwifery schools, MNH/Peru trained three groups of faculty and clinical preceptors at the medical and midwifery schools. The first macroregional course was conducted in Lima for faculty from central Peru. During this course MNH/Peru trained five midwives and 11 physicians representing four midwifery schools and seven medical

schools. The second macroregional course (Northern Peru) was conducted in Trujillo, during which eight midwives and seven physicians from six midwifery schools and four medical schools were trained. The third course, for Southern Peru, was conducted in Arequipa for 10 midwives and 10 physicians from four midwifery and five medical schools. In these courses, participants' training emphasized the development of skills through a humanistic training approach founded on the most currently available clinical evidence.

Of the 51 total participants, 50 were qualified. The participants' knowledge was evaluated with the precourse and midcourse tests. Their clinical skills were evaluated as they demonstrated the skills with clients and on models. The skills evaluated with clients included antenatal care, initial assessment of labor, use of the partograph, birthing assistance, restrictive use of episiotomy, active management of the third stage of labor, immediate care of the newborn, and monitoring of the puerperium period. Clinical skills that were evaluated by demonstration on models and through simulations included the management of shock, pre-eclampsia/eclampsia, sepsis, resuscitation of the newborn, instrumental inspection of the cervix, management of cervical lacerations, management of vaginoperineal lacerations, manual removal of placenta, sutures of cervical and vaginoperineal lacerations, bimanual compression of the uterus, and compression of the aorta.

Anatomic Models

In 2001 USAID/Peru earmarked a funding allocation to JHPIEGO for the procurement and distribution of 550 anatomic models to 17 medical and 15 midwifery schools, and 43 affiliated clinical training sites where subsequent training will occur. The anatomic models included childbirth simulators and neonatal resuscitation models, as well as models for teaching reproductive health skills such as pelvic exam, breast exam, and the use of the condom. The models arrived in Lima in February 2002 via an agreement between JHPIEGO and the Universidad Nacional Jorge Basadre Grohmann de Tacna (UNJBGT). After overcoming an administrative impasse between the Ministry of Education of Peru and UNJBGT, an agreement was finally reached whereby UNJBGT distributed the models to the other institutions along with a signed letter of commitment between UNJBGT and each institution. The distribution of the anatomic models was be completed by the beginning of September 2002.

Once the models were distributed to each institution, they were used to strengthen competency-based training using a humanistic approach.

Sustainability of MNH/Peru Program Investments

The MNH Program in Peru has worked closely with counterparts including the MOH and the medical and midwifery schools and their affiliated clinical training sites to promote the sustainability of the preservice program. The core competencies in EMNC have been incorporated into revised medical and midwifery curricula, and efforts have been made to strengthen the relationship between faculty and clinical preceptors in order to ensure that the knowledge that students acquire in the classroom is consistent with clinical practice at the clinical training sites.

To ensure that the interventions are sustainable, the MOH and the medical and midwifery schools must now assume ownership of the continued implementation of the core competencies in EMNC. This process will be reinforced if the Medical College of Peru, the College of Midwives of Peru, and the National Commission of Accreditation of Medical Schools are

actively involved in the monitoring and supervision of recently graduated physicians and midwives.

Several tasks were still pending at the time of program close-out:

- The formal approval of the *National Guidelines for the Basic Care of Women and Common Pathologies in Newborns* by the MOH has not been completed. A diskette version of the guidelines was provided to the Ministry so that they can edit the final version of the document without JHPIEGO guidance.
- Twenty-two schools still need to fully implement the use of learning guides and checklists. This will happen if faculty and clinical preceptors associated with these schools continue to work together to promote their implementation as a part of the core EMNC competencies.
- A number of clinical preceptors at clinical training sites affiliated with medical and midwifery schools still need to be standardized in accordance with updated clinical practice. This is the responsibility of those faculty and clinical preceptors who were able to participate in the macroregional courses.
- It is essential that once the anatomic models arrive at the institutions, they be used to establish a learning laboratory at each institution.

In terms of global strategy, the MNH/Peru experience has fed into the MNH Program's global legacy. First, MNH/Peru promoted international evidence-based standards for essential maternal and newborn care through the revision of the *National Guidelines for the Basic Care of Women and Common Pathologies in Newborns.* Second, by strengthening the preservice education system to include competency-based training and updated curricula at the medical and midwifery school level, MNH/Peru has contributed to improving the quality of skilled attendance.

PERU APPENDIX: UNIVERSITIES AND TRAINING CENTERS AFFILIATED WITH MNH/PERU

ALONG THE PERUVIAN COAST

Tumbes:
- Universidad Nacional de Tumbes (CNM); Hospital JAMO de Tumbes (training center)

Piura:
- Universidad Nacional de Piura (MD); Hospital de Apoyo III Sullana (training center)

Lambayeque:
- Universidad Nacional Pedro Ruiz Gallo (MD); Hospital Belén de Lambayeque and Hospital Almanzor Aguinaga de Chiclayo (training centers)
- Universidad Particular de Chiclayo (CNM); La Victoria Health Center (training center)

La Libertad:
- Universidad Nacional de Trujillo (MD); Hospital Regional de Trujillo and Hospital Belén de Trujillo (training centers)
- Universidad Cesar Vallejo (CNM); Hospital Florencia de Mora and Hospital Belén (training centers)
- Universidad Privada Antenor Orrego (MD and CNM); Hospital Victor Lazarte Echegaray, Hospital Belen and San Martín Health Post (training centers)

Ancash:
- Universidad de Chimbote (CNM); María Maternity (training center)

Lima:
- Universidad Nacional Mayor de San Marcos (MD and CNM); Hospital Madre-Niño San Bartolomé and Hospital Nacional Dos de Mayo, Instituto Materno Perinatal (training centers)
- Universidad Nacional Federico Villarreal (MD); Hospital Nacional Hipólito Unanue and Hospital de Apoyo Santa Rosa (training centers)
- Universidad San Martín de Porres (MD and CNM); Hospital General María Auxiliadora, Hospital Puente Piedra and Hospital Nacional Sergio Bernales, Instituto Materno Perinatal (training centers)

Ica:
- Universidad Nacional San Luis Gonzaga (MD); Hospital Regional de Ica (training center)

Arequipa:
- Universidad Nacional San Agustín (MD); Hospital Regional Honorio Delgado and Pedro P. Díaz Health Center (training centers)
- Universidad Católica Santa María (MD and CNM); Hospital Goyeneche, Hospital Regional Honorio Delgado and Paucarpata Health Center (training centers)

Tacna:
- Universidad Nacional Jorge Basadre Grohmann (CNM); Hospital Hipólito Unanue (training center)

ANDES

Cajamarca:
- Universidad Nacional de Cajamarca (MD and CNM); Hospital Regional de Cajamarca and La Tulpuna Health Center (training centers)

Huanuco:
- Universidad Nacional Hermilio Valdizán (CNM); Pomares Health Center (training center)
- Universidad Particular de Huanuco (CNM); Hospital Regional Hermilio Valdizán (training center)

Junín:
- Universidad Nacional del Centro (MD); Hospital El Carmen and Hospital Olavegoya de Jauja (training centers)
- Universidad Privada Los Andes (MD); Hospital Daniel A Carrión (training center)

Huancavelica:
- Hospital Regional de Huancavelica and Acobamba Health Center, training centers affiliated with Universidad San Cristóbal de Huamanga in Ayacucho

Ayacuchoz:
- Universidad Nacional San Cristóbal de Huamanga (CNM); Hospital Regional de Huamanga (training center)

Apurimac:
- Hospital Guillermo Díaz de la Vega en Abancay, training center affiliated with Universidad Nacional San Antonio Abad in Cusco

Cuzco:
- Universidad Nacional San Antonio Abad (MD); Hospital Antonio Lorena, Hospital Regional de Cusco (training centers)

Puno:
- Universidad Nacional del Altiplano (MD); Hospital Manuel Núñez Butrón (training center)
- Universidad Privada Nestor Cáceres Velásquez (CNM); Hospital Carlos Monge Medrano in Juliaca (training center)

IN THE PERUVIAN JUNGLE

Loreto:
- Universidad Nacional de la Amazonía (MD); Hospital Regional de Loreto (training center)
- Universidad Particular de Iquitos (CNM); Hospital Regional de Loreto (training center)

APPENDIX A

MNH PROGRAM PUBLICATIONS AND RESOURCES 1998–2004

REPORTS AND BOOKS

Behavior Change Interventions for Safe Motherhood: Common Problems, Unique Solutions—The MNH Program Experience (September 2004)

Champions for Change: Increasing Maternal and Newborn Survival (September 2004)

Measuring the Effects of Behavior Change Interventions in Burkina Faso with Population-Based Survey Results (September 2004)

Measuring the Effects of Behavior Change and Service Delivery Interventions in Guatemala with Population-Based Survey Results (September 2004) (also in Spanish)

Measuring the Effects of Behavior Change Interventions in Nepal with Population-Based Survey Results (September 2004)

Measuring the Effects of the SIAGA Behavior Change Campaign in Indonesia with Population-Based Survey Results (September 2004)

Preventing Postpartum Hemorrhage: From Research to Practice (September 2004)

Prevention of Postpartum Hemorrhage Study, West Java, Indonesia (September 2004)

Developing Regional Experts in Essential Maternal and Newborn Care: The MNH Program Experience (June 2004)

Improving Safe Motherhood through Shared Responsibility and Collective Action (December 2003)

Igniting Change! Accelerating Collective Action for Reproductive Health and Safe Motherhood, with the ENABLE Project (October 2003)

Shaping Policy for Maternal and Newborn Health: A Compendium of Case Studies, with Saving Newborn Lives and Family Care International (October 2003)

Building a Global Movement: The White Ribbon Alliance for Safe Motherhood, 1999-2003, with NGO Networks for Health (May 2003)

Scaling Up Practices, Tools, and Approaches in the Maternal and Neonatal Health Program (May 2003)

Using Performance and Quality Improvement to Strengthen Skilled Attendance (February 2003)

A Summary of Findings from Baseline Surveys in Three Maternal and Neonatal Health Program Countries (December 2002)

The Maternal and Neonatal Health Program: Building a Legacy for Improved Maternal and Newborn Care—A Review to Date (January 2002)

Implementing Global Maternal and Neonatal Health Standards of Care (2001) (also in Spanish)

JOURNAL ARTICLES

Thaddeus S, and R Nangalia. 2004. "Perceptions Matter: Barriers to Treatment of Postpartum Hemorrhage." *Journal of Midwifery and Women's Health* 49, no. 4 (July/August): 293–297.

Vivio D. 2004. "Active Management of the Third Stage of Labor: Why Is It Controversial?" *Journal of Midwifery and Women's Health* 49, no. 2 (January/February): 2–3.

Sirima SB et al. 2003. "Failure of a Chloroquine Chemoprophylaxis Program to Adequately Prevent Malaria during Pregnancy in Koupéla District, Burkina Faso," *Clinical Infectious Diseases* 36, no. 11 (June): 1374.

Sanghvi HC, B Kinzie, and M McCormick. 2002. "Reducing Postpartum Hemorrhage: Routine Use of Active Management of the Third Stage of Labor," in *Making Childbirth Safer Through Promoting Evidence-Based Care*. Global Health Council: Washington, D.C.

Perreira KM et al. 2002. "Increasing Awareness of Danger Signs in Pregnancy through Community- and Clinic-Based Education in Guatemala," *Maternal and Child Health Journal* 6, no. 1 (March): 19–28. Supported writing for results of MotherCare research.

McCormick ML, HCG Sanghvi, B Kinzie, and N McIntosh. 2002. "Preventing Postpartum Hemorrhage in Low-Resource Settings," *International Journal of Gynecology & Obstetrics* 77, no. 3 (July): 267–275.

Program for Appropriate Technology in Health. 2001. "Preventing Postpartum Hemorrhage: Managing the Third Stage of Labor." *Outlook* 19, no. 3 (September): 1–8. (Also in French and Spanish) Developed as a collaboration between PATH and MNH Program.

Johnson R. 2001. "Implementing Global Standards of Maternal and Neonatal Healthcare at the Provider Level: A Strategy for Disseminating and Using Guidelines." JHPIEGO Strategy Paper no. 10. JHPIEGO: Baltimore, MD.

Child Health Research Project. 1999. *Reducing Perinatal and Neonatal Mortality: A Special Report.*

REFERENCE MANUALS, LEARNING MATERIALS, AND TOOLKITS

Active Management of the Third Stage of Labor: A Demonstration (video) (September 2004)

Basic Maternal and Newborn Care Learning Resource Package (September 2004)

Site Assessment and Strengthening for Maternal and Newborn Health Programs (September 2004)

Monitoring Birth Preparedness and Complication Readiness: Tools and Indicators for Maternal and Newborn Health (September 2004)

Managing Newborn Problems Learning Resource Package (August 2004)

Igniting Change! Capacity-Building Tools for Safe Motherhood Alliances (May 2004)

World Health Organization (WHO). *Managing Newborn Problems: A Guide for Doctors, Nurses, and Midwives.* 2004. WHO: Geneva. Provided technical assistance for development and publication.

Guidelines for Assessment of Skilled Providers after Training in Maternal and Newborn Healthcare (March 2004)

Basic Maternal and Newborn Care: A Guide for Skilled Providers (January 2004) (also in French)

Malaria during Pregnancy Resource Package: Tools to Facilitate Policy Change and Implementation (October 2003) (also in French and Portuguese)

Emergency Obstetric Care: Quick Reference Guide for Frontline Providers (September 2003) (also in French and Spanish)

Learning Resource Package for Managing Complications in Pregnancy and Childbirth: Guide for Teachers (2002) (also in Spanish)

Guidelines for Technical Adaptation and Translation of Managing Complications in Pregnancy and Childbirth (2001) (also in Spanish)

World Health Organization (WHO). 2000. *Managing Complications in Pregnancy and Childbirth: A Guide for Midwives and Doctors*. WHO: Geneva. Provided technical assistance for development and publication.

INFORMATION SHEETS

Program Briefs

Preventing Postpartum Hemorrhage: A Community-Based Approach Proves Effective in Rural Indonesia (May 2004)

Interventions for Improving Newborn Health and Survival (April 2004)

Prevention and Treatment of Malaria during Pregnancy (April 2004)

Focused Antenatal Care: Planning and Providing Care during Pregnancy (March 2004)

Nutritional Interventions to Improve Maternal and Newborn Health and Survival (January 2004)

Best Practices

The Partograph: An Essential Tool for Decision-Making during Labor (September 2002)

Competency-Based Training: A "Learning by Doing" Approach (September 2002)

Informed Demand for Safe Motherhood (June 2002)

Postabortion Care: Skilled Care and Comprehensive Services (April 2002)

Preventing and Treating Malaria during Pregnancy (March 2002)

Detecting and Treating Newborn Asphyxia (March 2002)

Preventing Postpartum Hemorrhage: Active Management of the Third Stage of Labor (also in Spanish) (March 2002)

Developing Experts for Maternal and Neonatal Health (January 2002)

The Traditional Birth Attendant: Linking Communities and Services (January 2002)

Woman-Centered Care (January 2002)

Detection and Management of Hypertensive Disorders of Pregnancy (December 2001)

Mother-to-Child Transmission of HIV/AIDS: Reducing the Risk (November 2001)

Performance and Quality Improvement (also in French) (October 2001)

Addressing Gender in Maternal and Newborn Healthcare (October 2001)

Focused Antenatal Care: Planning and Providing Care during Pregnancy (also in French) (September 2001)

Newborn Health (June 2001)

The Skilled Provider: A Key Player in Saving the Lives of Women and Newborns (also in Spanish) (June 2001)

Technical Area Profiles

Social Mobilization through Collective Action for Safe Motherhood (also in French) (December 2001)

Behavior Change Interventions (also in Spanish) (May 2001)

Maternal and Neonatal Health (MNH) Program (Overview) (also in Spanish) (May 2001)

Monitoring and Evaluation (also in Spanish) (May 2001)

Policy and Finance (also in Spanish) (May 2001)

Service Delivery (also in Spanish) (May 2001)

Making A Difference

Ambassador of Quality: An Interview with Sylvia Deganus (January 2002)

Change Agents in Bangladesh, Uganda and Uruguay: Extending beyond MNH Program Countries (January 2002)

An Ambitious Agenda: Regional Expert Responds to Call for Training in Burkina Faso (also in French) (January 2002)

Nurse and Ob/Gyn Work to Improve Women's Healthcare Practices in Guatemala (January 2002)

Beyond the Call of Duty: Midwives Work to Improve Care in Ugandan Hospitals (1October 2001)

Country Profiles

Nepal (January 2002)

Zambia (January 2002)

Bolivia (also in Spanish) (June 2001)

Burkina Faso (also in French) (June 2001)

Guatemala (also Spanish) (June 2001)

Honduras (also in Spanish) (June 2001)

Indonesia (June 2001)

Tanzania (June 2001)

Program Highlights, Case Studies, and News

White Ribbon Alliance Launch in Burkina Faso Wins International Recognition (June 02)

Adapting Performance and Quality Improvement at the Community Level: The Burkina Faso Experience (March 2002)

MNH Program Participates in Indonesian Media Campaign to Encourage Shared Responsibility for Safe Motherhood (March 2002)

National Seminar Addresses Causes of Maternal Mortality in Indonesia (March 2002)

Guatemalan Woman Survives Childbirth with the Help of Community-Based Life-Saving Plan (also in Spanish) (February 2002)

Guatemala Ministerial Agreement Will Scale Up Performance and Quality Improvement Initiative (February 2002)

Implementing a Performance and Quality Improvement Approach at the Country Level (also in Spanish) (February 2002)

Bolivia Issues Ministerial Resolution Officially Mandating Evidence-Based Maternal and Newborn Healthcare Practices (also in Spanish) (January 2002)

Guatemala's Clinical Skills Training Fosters New Practices and Attitudes (January 2002)

Changing Facility-Based Practices: Experiences from Burkina Faso, Nepal and Guatemala (also in French and Spanish) (January 2002)

Guatemala: Developing and Implementing Community-Based Life-Saving Plans (January 2002)

Country Activities (also in French and Spanish) (December 2001)

Promoting Focused Antenatal Care at the Country Level (also in French) (December 2001)

Honduras: Developing and Implementing Hospital-Based Epidemiologic Surveillance System for MNH (November 2001)

Guatemala District Conducts First Forum on Safe Motherhood (November 2001)

Social Mobilization in the Maternal and Neonatal Health Program: Global and Country Activities (December 2001)

Simple Approaches Save Newborns in Respiratory Distress (October 2001)

Helping Families Worldwide (also in Spanish) (June 2001)

OTHER PUBLICATIONS AND RESOURCES

MNH Program Expert Trainer Directory: Latin America and the Caribbean (2002) (also in Spanish)

MNH Program Expert Trainer Directory: Africa (2001)

Birth Preparedness/Complication Readiness: A Matrix of Shared Responsibility (2001, revised in 2004) (2001 edition also in French and Spanish)

White Ribbon Alliance for Safe Motherhood. Awareness, Mobilization, and Action for Safe Motherhood: A Field Guide. 2000. White Ribbon Alliance for Safe Motherhood: Washington, D.C. Supported publication in English and translation into French and Spanish.

MNH Update, a monthly electronic newsletter about MNH Program activities

MNH Program Website: http://www.mnh.jhpiego.org/